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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Environmental Data Service



JANUARY

1974

Volume 25

No. 1

11e, N.C.

C O N T E N T S

SURFACE DATA

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NOTE: Late reports and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

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I certify that this is an official publication of the National Oceanic and Atmospheric Administration, and is compiled from records on file at the National Climatic Center, Asheville, North Carolina 28801.

William H. Haggard
Director, National Climatic Center

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NATIONAL SUMMARY

JANUARY 1974

GENERAL SUMMARY OF WEATHER CONDITIONS

Dr. Richard E. Felch, Climatologist

HIGHLIGHTS:

1. With the exception of the Central Great Plains and the Rocky Mountain States, most of the Nation averaged warmer than normal.
2. Heavy precipitation fell in the Mississippi Valley and parts of the West, light in the Plains States and Florida, and close to normal elsewhere.

TEMPERATURE: Extremes were the general rule over the Nation with record cold the first two weeks, and record warmth the last two in most areas. Overall, temperatures averaged 3° to 12° warmer than normal east of the Mississippi and 1° to 4° warmer in parts of the Far West. The Central Great Plains and Rocky Mountain States averaged 3° to 6° below normal. The weather provided a big boost to those concerned with heating fuel supplies since 8 out of 10 homes are located in the warmer than normal areas.

Extreme cold gripped most of the Nation during first two weeks as a series of high pressure systems pushed frigid Arctic air to our southern borders. Temperatures averaged at least 10° below normal from the Sierras to the Appalachians, and more than 30° below normal in parts of Wyoming, Colorado, and Nebraska. On New Year's Day morning, International Falls, Minnesota, registered a cool -38°. The week ending on the 6th averaged -9° at Casper, Wyoming, 32° below normal. The first seven days of January were the coldest in 43 years of record at Kansas City. Bismarck, North Dakota, registered -40° on the 10th, and -42° on the 12th.

At mid-month a warming trend began which quickly broke one of the long cold spells of record in the Plains States. Sheridan, Wyoming, reached 70° and Pendleton, Oregon, 68°, on the 15th, at each station the warmest January temperature on record.

The last decade of the month continued exceptionally warm as temperatures averaged 6° to 18° above normal over most of the Nation. Many all-time high temperature records were broken as warm tropical air dominated the weather picture.

PRECIPITATION: Total precipitation was about normal over most of the Nation. Unusually heavy precipitation was confined to the length of the Mississippi River Valley and parts of the Desert Southwest. The northern and southern portions of the Great Plains and eastern Oregon and Nevada were the only areas much drier than normal. Heaviest amounts included 12.69 inches (318 percent of normal) at Lake Charles, Louisiana, 18.15 inches at Vicksburg, Mississippi, and 15.41 inches at Mullan, Idaho. The Oregon-Washington coast received 12 to 14 inches, which is slightly above normal. Las Vegas, Nevada, received only 2 inches, but this is four times the normal rainfall and the wettest ever since 1949 when a record 2.41 inches fell. Parts of four States in a band stretching eastward from Las Vegas received at least three times the expected rainfall.

The first two weeks saw light precipitation over much of the Country except for parts of the southeast and southern California. At least 2 inches fell from the Louisiana coast northeastward into Kentucky and the Carolinas. A Low pressure system moved down along the California coast, bringing unusually heavy rains to southern portions of the State and as far inland as Nevada and Arizona. Los Angeles, California, received 5.57 inches of rain in 2 days and a total of 8.35 inches for the month. This heavy precipitation continued into the second week of the month.

Heavy rains of 2 inches or more each week persisted through the month in the Lower Mississippi River Valley. By mid-month more typical weather returned to the Southwest, but rainfall increased along the Washington coast. During the last week considerable severe weather and flooding occurred in Louisiana, Mississippi, and northeastward through Appalachia.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

JANUARY 1974

STATE	Temperature						Precipitation					
	Monthly extremes						Monthly extremes					
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least		
		°F			°F			In.		In.		
Alabama	3 Stations	81	29+	Florence	- 16	13+	Red Bay	15.68	Fort Morgan	2.16		
Alaska	Kake	51	25	Prospect Creek Camp	- 60	28	Little Port Walter	12.35	8 Stations	.00		
Arizona	2 Stations	84	16	Dinnehotso	- 25	3	Sunrise Mountain	6.26	San Simon 9 ESE	.38		
Arkansas	Stamps	77	31	Harrison	- 4	1	Monticello 3 SW	11.18	Fayetteville Exp. Station	.88		
California	El Centro 2 SSW	87	17	Bodie	- 25	3	Cazadero 3 W	24.84	Tulelake	.35		
Colorado	Evergreen	74	16	Kremmling	- 46	4	Wolf Creek Pass 1 E	6.78	Brandon	.02		
Connecticut	Stamford 5 N	68	27	Coventry	- 13	14	Stevenson Dam	5.60	Bulls Bridge Dam	3.46		
Delaware	Milford 2 WSW	73	27	2 Stations	12	14	Milford 2 WSW	3.74	Lewes 1 SW	2.37		
Florida	3 Stations	89	30+	Smith Creek	37	13	Pompano Beach	11.27	3 Stations	.00		
Georgia	Waycross 4 NE	86	18	Blairsville Exp. Station	20	13	Ellijay	11.58	Savannah Beach	.46		
Hawaii	Pahala 21, Hawaii	89	9	Mauna Loa Slope Obs., Hawaii	26	26	Mount Waialeale 1047, Kauai	38.25	Mauna Kea Obs. 111.2, Hawaii	.17		
Idaho	Brownlee Dam	64	16	Hill City	- 37	2	Wallace Woodland Park	14.56	Leadore 2	T		
Illinois	Rosiclare	70	18	Mount Carroll	- 28	12	Charleston	5.48	Macomb	1.79		
Indiana	Spurgeon 2 N	70	19	Wheatfield 2 NNW	- 16	12	English	6.19	Rensselaer	2.15		
Iowa	2 Stations	62	30	Atlantic 1 NE	- 37	12	Tipton	4.19	Peterson 1 W	.08		
Kansas	Hugoton	71	21	Kirwin	- 30	4	Fort Scott	2.74	Geneseo	T		
Kentucky	2 Stations	74	19+	4 Stations	7	1	Mount Vernon	12.21	Covington WSO AP	3.65		
Louisiana	Saint Bernard	84	28+	Homer Exp. Station	19	1	Columbia Locks	17.46	Boothville WSO	1.22		
Maine	Saco	63	27	Clayton Lake 2	- 42	17	Bridgton 3 NNW	4.59	Presque Isle	1.60		
Maryland	La Plata 1 W	75	27	Bittinger 2 NW	2	13	Oakland 1 SE	5.83	Benson Police Barracks	2.29		
Massachusetts	Chester 2	67	27	Chester 2	- 21	18	New Medford	5.59	Edgartown	2.78		
Michigan	4 Stations	56	31+	Kenton U. S. Forest	- 36	2	Benton Harbor Airport	5.34	Stambaugh 1 S	.53		
Minnesota	New Ulm 2 SE	54	16	Thorhult 1 S	- 45	11	Wannaska 8 SE	1.55	3 Stations	.00		
Mississippi	8 Stations	80	22+	Hernando	14	1	2 Stations	18.15	2 Stations	4.10		
Missouri	Berryman 6 NW	72	18	Maryville 2 E	- 32	13+	Caruthersville	6.16	Kansas City Int. WSO AP	1.05		
Montana	Belfry 4 SSW	72	16	Opheim 10 N	- 48	11	Troy 18 N	10.39	Terry	.00		
Nebraska	Valentine WSO AP	70	16	Mead Agronomy Lab.	- 35	12	Mullen 21 NW	1.61	Lamar	T		
Nevada	Dixie Valley Stark	71	15	Currie Highway Station	- 29	2	Mount Rose Bowl	6.80	Mina	.11		
New Hampshire	Windham 3 NW	63	27	First Conn Lake	- 39	18	Mount Washington	8.26	Monroe 5 NNE	2.24		
New Jersey	Tuckerton	74	27	2 Stations	- 8	14+	Burlington	5.26	Cranford	2.37		
New Mexico	Jal	85	17	Eagle Nest	- 35	4	Sandia Crest	4.10	Orogrande	T		
New York	2 Stations	68	27	Chazy	- 37	18	Slide Mountain	5.85	Prattsburg 2 NW	.92		
North Carolina	Sloan 3 S	81	27	Grandfather Mountain	10	13	Nantahala	14.35	Cape Hatteras WSO	2.02		
North Dakota	2 Stations	61	16	Bismarck WSO AP	- 42	12	Rolla 3 NW	1.06	Linton	.00		
Ohio	Ironton	72	18	Paulding	- 13	13	Waterloo	6.94	Middlebourne	1.60		
Oklahoma	Hollis	81	21	Kenton	- 18	4	Carnasaw Tower	5.98	Meeker 1 E	.00		
Oregon	2 Stations	68	15	2 Stations	- 27	6+	Valsetz	29.94	OO Ranch	.12		
Pennsylvania	2 Stations	71	28+	Lawrenceville	- 15	13	Confluence 1 SW Dam	5.95	Conneautville	1.86		
Puerto Rico & VI	Utua 1 WSW, P. R.	92	3+	Adjuntas Substation, P. R.	47	7	Pico Del Este, P. R.	12.64	Ensenada, P. R.	.05		
Rhode Island	Providence WSO AP	66	27	Kingston	- 8	14	North Scituate 4 W	4.94	Woonsocket	3.74		
South Carolina	2 Stations	84	24	Caesars Head 1 NE	20	13	Hogback Mountain	10.77	Hilton Head	.53		
South Dakota	Wood	76	16	Flandreau	- 40	1	Deerfield 4 NW	.98	46 Stations	T		
Tennessee	Greeneville Exp. Station	75	23	Dresden	9	1	Tullahoma	14.12	Samburg Wildlife Refuge	5.04		
Texas	2 Stations	92	23+	Lipscomb	- 18	5+	Kirbyville Forest Service	14.16	17 Stations	.00		
Utah	Fish Springs Refuge	69	16	Woodruff	- 39	2	Pine View Dam	4.52	Wendover WSO AP	.12		
Vermont	Vernon	62	28	Endsburg Falls	- 35	18	Mount Mansfield	4.53	Huntington Center	1.55		
Virginia	Boykins	77	11	Monterey	4	13	Pennington Gap	8.73	Manassas	2.26		
Washington	3 Stations	67	16+	2 Stations	- 25	9+	Baring	33.03	Prosser 4 NE	.66		
West Virginia	Winfield Locks	77	23	2 Stations	3	13	Jaeger	8.94	Mathias	1.66		
Wisconsin	2 Stations	53	16	Prentice 1 N	- 41	1	Lake Geneva	4.01	River Falls	.06		
Wyoming	Sheridan WSO AP	70	15	Bondurant 3 NW	- 51	2	Snake River	5.67	2 Stations	T		

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State and Station	Elevation (ground)	Pressure		Temperature						Precipitation				Wind				No. of days (sunrise to sunset)		Possible sunshine (sunrise to sunset)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
		Station Q	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest		Lowest	Date	No. of days		Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	No. of days		Total	Ice pellets	Snow.	Maximum depth on ground	Resultant speed	Resultant direction	Fastest mile (1.6 kilometers)		Direction	Date	Speed	M.p.s.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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		Station Q	Sea level	Average maximum		Average minimum		Average		Departure from normal		Highest		Lowest		Date			No. of days	Max 32.2 °C or above	Min 0 °C or lower	Average dew point	Average relative humidity																																																																																																																																																																																																																																																																																																		
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COLORADO COLORADO SPRINGS DENVER GRAND JUNCTION DURANGO	1873 803.1 1017.8 1610 833.1 1016.8 1476 854.4 1025.4 1428 853.0 1017.9	3.9 -9.5 -17.3 -4.1 -10.7	39.9 -9.5 -12.7 -4.1 -10.7	-2.8 -4.6 -8.4 -3.2 -3.2	-0.9 -3.4 -6.4 -2.1 -2.1	22.2 15.0 15.0 21.1 21.1	16 31 31 14 14	-22.2 -15.6 -15.6 -29.4 -29.4	16 31 31 14 14	-11.7 -11.7 -11.7 -10.6 -10.6	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 30 28 28	55 55 55 63 63	0 0 0 0 0	28 30 3

METRIC UNITS

JANUARY 1974

State and Station	Elevation (ground)	Pressure		Temperature						Precipitation				Wind			No. of days (sunrise to sunset)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
		Station Q	Sea level	Average maximum		Average minimum		Average		Departure from normal		Highest		Lowest		Date	Max 32° or above	Min 0° or lower	Average relative humidity	Precipitation			Snow, ice pellets		Wind																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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CLIMATOLOGICAL DATA

METRIC UNITS

JANUARY 1974

State and Station	Elevation (ground)	Pressure		Temperature										Precipitation						Wind			No. of days (sunrise to sunset)		Possible sunshine (sunrise to sunset)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest		Lowest	Date	No. of days		Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	No. of days		Snow, ice pellets	Resultant speed				Resultant direction	Speed	Direction	Date																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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CLIMATOLOGICAL DATA

METRIC UNITS

JANUARY 1974

State and Station	Elevation (ground)	Pressure		Temperature										Precipitation					Wind				No. of days (sunrise to sunset)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date		Lowest	No. of days		Average dew point	Total	Departure from normal	Greatest in 24 hours	With thunderstorms	No. of days	Snow, ice pellets		Fastest mile (1.6 kilometers)				Direction	Speed	Residual speed	Residual direction																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
									Max 32.2 °C or above	Min. 0 °C or lower		Mm.	Mm.							Mm.	Mm.		Mm.	Mm.	Mm.					Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.	Mm.

CLIMATOLOGICAL DATA

METRIC UNITS

JANUARY 1974

State and Station	Pressure		Temperature						Precipitation				Wind		No. of days (sunrise to sunset)		Possible sunshine															
	Elevation (ground)	Station Q	Sea level	Average maximum	Average minimum	Average		Departure from normal		Date		No. of days	With thunderstorms	Ice pellets	Snow, on ground	Resultant speed		Resultant direction	Speed (1.6 kilometers)	Direction												
						Maximum	Minimum	Highest	Lowest	Date	Max 32.2 °C or above										Min. 0 °C or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	No. of days	Total	Maximum depth			
SOUTH CAROLINA	M.	12	1020.0	21.6	11.5	16.6	7.3	26.7	1.1	13	0	0	12.2	80	36	-38	23	9	1	0	41	127	0.5	27	13.4	SW	28	4	9	18	7.2	60
	CHARLESTON	3	1020.0	20.3	12.6	16.4	6.4	25.6	23	0	0	0	11.7	85	25	-43	14	5	4	0	0	0	0.5	26	10.3	W	16	5	1	25	7.9	43
	COLUMBIA	65	1013.5	20.7	9.5	15.1	7.7	28.9	24	0	0	0	6.7	81	156	69	44	16	4	0	0	0	0.9	24	9.4	SW	16	6	7	18	7.4	36
	GREENVILLE-SPRING	292	986.1	1021.2	15.7	5.8	5.1	25.0	16	0	0	0	6.7	81	108	4	55	16	2	0	0	0	0.9	24	9.4	SW	16	6	7	18	7.4	36
SOUTH DAKOTA																																
	ABERDEEN	395	969.2	1018.9	-8.4	-20.2	-14.3	-1.8	4.4	29	0	0	17.8	76	1	-12	1	1	0	0	41	127	0.5	27	13.4	SW	30	8	8	15	6.3	68
	HURON	390	969.9	1018.8	-4.6	-16.4	-10.5	0.3	9.4	26	0	0	27	-12.8	3	-8	3	1	0	36	102	0.5	18	15.2	N	30	10	8	13	5.0	51	
	RAPID CITY	964	902.1	1017.1	1.1	-12.3	-5.6	0.0	19.4	16	0	0	31	-14.4	3	-11	2	6	0	48	203	1.3	25	12.5	SW	30	8	8	15	6.4	51	
MISSOURI																																
	ST LOUIS	432	965.8	1019.9	-4.5	-16.9	-10.7	0.8	9.4	16	0	0	31	-14.4	70	3	-11	2	6	0	48	203	1.3	25	12.5	SW	30	8	8	15	6.4	51
	SPRINGFIELD	432	965.8	1019.9	-4.5	-16.9	-10.7	0.8	9.4	16	0	0	31	-14.4	70	3	-11	2	6	0	48	203	1.3	25	12.5	SW	30	8	8	15	6.4	51
	ST LOUIS	432	965.8	1019.9	-4.5	-16.9	-10.7	0.8	9.4	16	0	0	31	-14.4	70	3	-11	2	6	0	48	203	1.3	25	12.5	SW	30	8	8	15	6.4	51
MISSOURI																																
	ST LOUIS	432	965.8	1019.9	-4.5	-16.9	-10.7	0.8	9.4	16	0	0	31	-14.4	70	3	-11	2	6	0	48	203	1.3	25	12.5	SW	30	8	8	15	6.4	51
	ST LOUIS	432	965.8	1019.9	-4.5	-16.9	-10.7	0.8	9.4	16	0	0	31	-14.4	70	3	-11	2	6	0	48	203	1.3	25	12.5	SW	30	8	8	15	6.4	51
	ST LOUIS	432	965.8	1019.9	-4.5	-16.9	-10.7	0.8	9.4	16	0	0	31	-14.4	70	3	-11	2	6	0	48	203	1.3	25	12.5	SW	30	8	8	15	6.4	51
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	ST LOUIS	432	965.8	1019.9	-4.5	-16.9	-10.7	0.8	9.4	16	0	0	31	-14.4	70	3	-11	2	6	0	48	203	1.3	25	12.5	SW	30	8	8	15	6.4	51
	ST LOUIS	432	965.8	1019.9	-4.5	-16.9	-10.7	0.8	9.4	16	0	0	31	-14.4	70	3	-11	2	6	0	48	203	1.3	25	12.5	SW	30	8	8	15	6.4	51
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	ST LOUIS	432	965.8	1019.9	-4.5	-16.9	-10.7	0.8	9.4	16	0	0	31	-14.4	70	3	-11	2	6	0	48	203	1.3	25	12.5	SW	30	8	8	15	6.4	51
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MISSOURI																																
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	ST LOUIS	432	965.8	1019.9	-4.5	-16.9	-10.7	0.8	9.4	16	0	0	31	-14.4	70	3	-11	2	6	0	48	203	1.3	25	12.5	SW	30	8	8	15	6.4	51
	ST LOUIS	432	965.8	1019.9	-4.5	-16.9	-10.7	0.8	9.4	16	0	0	31	-14.4	70	3	-11	2	6	0	48	203	1.3	25	12.5	SW	30	8	8	15	6.4	51
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	ST LOUIS	432	965.8	1019.9	-4.5	-16.9	-10.7	0.8	9.4	16	0	0	31	-14.4	70	3	-11	2	6	0	48	203	1.3	25	12.5	SW	30	8	8	15	6.4	51
	ST LOUIS	432	965.8	1019.9	-4.5	-16.9	-10.7	0.8	9.4	16	0	0	31	-14.4	70	3	-11	2	6	0	48	203	1.3	25	12.5	SW	30	8	8	15	6.4	51
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	ST LOUIS	432	965.8	1019.9	-4.5	-16.9	-10.7	0.8	9.4	16	0	0	31	-14.4	70	3	-11	2	6	0	48	203	1.3	25	12.5	SW	30	8	8	15	6.4	51
	ST LOUIS	432	965.8	1019.9	-4.5	-16.9	-10.7	0.8	9.4	16	0	0	31	-14.4	70	3	-11	2	6	0	48	203	1.3	25	12.5	SW	30	8	8	15	6.4	51
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	ST LOUIS	432	965.8	1019.9	-4.5	-16.9	-10.7	0.8	9.4	16	0	0	31	-14.4	70	3	-11	2	6	0	48	203	1.3	25	12.5	SW	30	8	8	15	6.4	51
	ST LOUIS	432	965.8	1019.9	-4.5	-16.9	-10.7	0.8	9.4	16	0	0	31	-14.4	70	3	-11	2	6	0	48	203	1.3	25	12.5	SW	30	8	8	15	6.4	51
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	ST LOUIS	432	965.8	1019.9	-4.5	-16.9	-10.7	0.8	9.4	16	0	0	31	-14.4	70	3	-11	2	6	0	48	203	1.3	25	12.5	SW	30	8	8	15	6.4	51
	ST LOUIS	432	965.8	1019.9	-4.5	-16.9	-10.7	0.8	9.4	16	0	0	31	-14.4	70	3	-11	2	6	0	48	203	1.3	25	12.5	SW	30	8	8	15	6.4	51
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	ST LOUIS	432	965.8	1019.9	-4.5	-16.9	-10.7	0.8	9.4	16	0	0	31	-14.4	70	3	-11	2	6	0	48	203	1.3	25	12.5	SW	30	8	8	15	6.4	51
	ST LOUIS	432	965.8	1019.9	-4.5	-16.9	-10.7	0.8	9.4	16	0	0	31	-14.4	70	3	-11	2	6	0	48	203	1.3	25	12.5	SW	30	8	8	15	6.4	51
MISSOURI																																

CLIMATOLOGICAL DATA

METRIC UNITS

JANUARY 1974

State and Station	Elevation (ground)	Pressure		Temperature							Precipitation					Wind				No. of days (sunrise to sunset)		Sky cover, tenths (sunrise to sunset)																	
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days	Greatest in 24 hours	25 mm. or more	With thunderstorms	Total	Total	Maximum depth on ground	Resultant speed				Resultant direction	Speed	Direction														
																				Max 32.2 °C or above	Min. 0 °C or lower					Average dew point	Average relative humidity	No. of days	Total	Departure from normal	Greatest in 24 hours	25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction
WASHINGTON	289																																						
	321																																						
	YAKIMA																																						
WEST INDIES																																							
	SAN JUAN P.R.																																						
WEST VIRGINIA																																							
	763																																						
	286																																						
	985.8																																						
	985.8																																						
	985.5																																						
PARKERSBURG																																							
	187																																						
WISCONSIN																																							
	208																																						
	198																																						
	262																																						
	205																																						
GREEN BAY																																							
	992.6																																						
	994.6																																						
	986.5																																						
	992.9																																						
MADISON																																							
	992.9																																						
	992.9																																						
	992.9																																						
	992.9																																						
MILWAUKEE																																							
	992.9																																						
	992.9																																						
	992.9																																						
	992.9																																						
WYOMING																																							
	833.4																																						
	807.0																																						
	824.9																																						
	874.7																																						

HEATING DEGREE DAYS

(Base 65°F.)

JANUARY 1974

State and station	Current season		Normals July through this month	State and station	Current season		Normals July through this month	State and station	Current season		Normals July through this month	State and station	Current season		Normals July through this month
	This month	Period July through this month			This month	Period July through this month			This month	Period July through this month			This month	Period July through this month	
ALABAMA				IDAHO				NEBRASKA				TENNESSEE			
BIRMINGHAM	374	1350	1802	BOISE	1099	3110	3437	GRAND ISLAND	1479	4061	3781	BRIISTOL	552	2008	2594
MUNTSVILLE	486	1517	2059	LEWISTON	1106	3144	3269	LINCOLN	1533	4019	3688	CHATTANOOGA	480	1722	2181
MOBILE	104	594	1048	POCATELLO	1315	4012	4083	NORFOLK	1493	4134	4092	KNOXVILLE	481	1733	2144
MONTGOMERY	218	976	1467					NORTH PLATTE	1518	4336	3933	MEMPHIS	599	1583	2023
ALASKA				ILLINOIS				OMAHA	1427	3823	3589	NASHVILLE	601	1762	2279
ANCHORAGE	1797	6912	6523	CAIRO U	830	2165	2362	SCOTT'S BLUFF	1407	4211	3893	OAK RIDGE P	548	1902	2407
ANNETTE	1118	4648	3965	CHICAGO O HARE	1240	3382	3729	VALENTINE	1413	4199	4196				
BARDON	2352	10127	11078	CHICAGO MIDWAY	1230	3376	3513					TEXAS			
BARTER ISLAND	2358	10373	10922	MOLINE	1338	3681	3747	NEVADA				ABILENE	680	1530	1662
BETHEL	1824	7320	7562	PEORIA	1292	3507	3582	ELKO	1145	3835	4310	AMARILLO	922	2365	2508
BETTES				ROCKFORD	1354	3741	3967	FLY	1285	4337	4355	AUSTIN	494	974	1124
BIG DELTA	2444	8778	9436	SPRINGFIELD	1200	3139	3288	LAS VEGAS	738	1705	1690	BROWNSVILLE	190	336	410
COLD BAY	1089	5342	5383					PRNO	1027	3224	3456	CORPUS CHRISTI	264	488	611
FAIRBANKS	2535	8794	8801	INDIANA				WINNEMUCCA	1070	3428	3810	OFL RIO	363	809	1061
HOMER	1571	6339	5980	EVANSVILLE	849	2433	2798					EL PASO	636	1661	1796
JUNEAU	1550	5930	5244	FORT WAYNE	1206	3342	3568	NEW HAMPSHIRE	1345	4103	4162	FORT WORTH	656	1384	1503
KING SALMON	1719	6459	6716	INDIANAPOLIS	1028	2863	3276	CONCORD	1809	7370	7722	GALVESTON U	251	524	744
KODIAK	1144	5387	4921	SOUTH BEND	1142	3148	3670	MT WASHINGTON OBS				HOUSTON INTERCON	330	776	928
KOTZEBUE	2129	8849	8803									LUBBOCK	726	1899	2194
MC GRATH	2345	9046	8814	IOWA				NEW JERSEY				MIDLAND	607	1516	1692
NOMF	1057	8135	7961	BURLINGTON	1298	3524	3618	ATLANTIC CITY	788	2389	2795	PORT ARTHUR	288	768	981
ST. PAUL ISLAND	1188	5865	5915	DES MOINES	1406	3727	3927	ATLANTIC CITY U	798	2195	2502	SAN ANGELO	554	1234	1466
SUMMIT	2155	8926	8484	DUBUQUE	1460	4076	4235	NEWARK	909	2359	2829	SAN ANTONIO	477	917	1035
TALKEETNA	1978	7680	7014	SIOUX CITY	1491	3990	4104	TRENTON U	906	2459	2805	VICTORIA	310	590	795
UNALAKLEET				WATERLOO	1480	4150	4342					WACO	605	1205	1321
YAKUTAT	1490	5905	5422					NEW MEXICO				WICHITA FALLS	752	1673	1835
				KANSAS				ALBUQUERQUE	943	2824	2657				
ARIZONA				CONCORDIA	1329	3469	3329	CLAYTON	1025	2900	2994	UTAH			
FLAGSTAFF	1147	3717	4033	DODGE CITY	1199	3106	2994	ROSWELL	745	2032	2346	MILFORD	1362	1928	3747
PHOENIX	333	782	1015	GOODLAND	1281	3700	3531					SALT LAKE CITY	1181	3362	3512
TUCSON	451	1080	1095	TOPKA	1317	3251	3153	NEW YORK				WENDOVER	1149	3452	3522
WINSLOW	1009	2905	2806	WICHITA	1237	3016	2840	ALBANY	1285	3807	3911				
YUMA	293	645	692					BINGHAMTON	1160	3624	4054	VERMONT			
ARKANSAS				KENTUCKY				BUFFALO	1167	3507	3788	BURLINGTON	1431	4179	4410
FORT SMITH	821	2007	2108	COVINGTON	901	2693	2972	NEW YORK II	913	2397	2698				
LITTLE ROCK	690	1694	2105	LEXINGTON	744	2308	2808	NEW YORK KENNEDY	920	2642	2819	VIRGINIA			
				LOUISVILLE	772	2239	2770	NEW YORK LA GUARDIA	903	2370	2716	LYNCHBURG	641	2141	2530
				LOUISIANA				ROCHESTER	1167	3343	3703	NORFOLK	504	1515	2016
CALIFORNIA				ALEXANDRIA	357	1055	1412	SYRACUSE	1200	3539	3688	RICHMOND	589	1913	2363
BAKERSFIELD	409	1157	1404	BATON ROUGE	179	667	1094					ROANOKE	607	2102	2559
BISHOP	1088	2771	2558	LAKE CHARLES	245	719	966	NORTH CAROLINA				WALLOPS ISLAND	676	2438	2363
BLUF CANYON	939	3245	2839	NEW ORLEANS	117	570	949	ASHEVILLE	516	1973	2535				
FIREKA U	559	2595	2555	SHREVEPORT	533	1294	1390	CAPE HATTERAS P	293	959	1500	WASHINGTON			
FRESNO	522	1520	1641					CHARLOTTE	463	1665	1990	OLYMPIA	852	3265	3140
LONG BEACH	164	863	864	MAINE				GREENSBORO	586	2045	2336	QUILLAYUT	828	3514	3276
LOS ANGELES	323	714	902	CARIBOU	1810	5272	5397	HALEIGH	481	1611	2146	SEATTLE	790	2698	2510
LOS ANGELES U	300	639	639	PORTLAND	1290	3793	4134	WILMINGTON	211	933	1497	SEATTLE-TACOMA	809	2757	2932
MT SHASTA R	1009	3407	3255									SPOKANE	1265	3979	4026
OAKLAND	516	1755	1615	MARYLAND				NORTH DAKOTA				STAMPEDE PASS R	1363	5487	5235
RED BLUFF	577	1658	1612	BALTIMORE	830	2451	2745	BISMARCK	1816	5677	5244	WALLA WALLA U	1016	2816	2946
SACRAMENTO	571	1585	1678					FARGO	1963	5643	5374	YAKIMA	1157	3536	3672
SANBERG R	486	2477	2248	MASSACHUSETTS				WILLISTON	1801	5599	5332				
SAN DIEGO	243	586	776	BLUE HILL OBS R	1123	3272	3475					WEST VIRGINIA			
SAN FRANCISCO	501	1720	1663	BOSTON	1023	2760	3081	OHIO				BECKLEY	724	2656	3268
SAN FRANCISCO U	423	1813	1681	WORCESTER	1191	3594	3801	AKRON	1059	2966	3528	CHARLESTON	659	2255	2740
SANTA MARIA	448	1670	1596					CINCINNATI ABBE OB	868	2471	2863	ELKINS	799	3000	3464
STOCKTON	561	1509	1684	MICHIGAN				CLEVELAND	1015	2885	3434	HUNTINGTON	710	2235	2747
				ALPENA	1364	4315	4655	COLUMBUS	977	2786	3323	PARKERSBURG	788	2437	2836
COLORADO				DETROIT	1102	3242	3472	DAYTON	1004	2902	3274				
ALAMOSA	1662	5105	5048	DETROIT METRO	1189	3394	3624	MANSFIELD	1017	2883	3318	WISCONSIN			
COLORADO SPRINGS	1172	3572	3640	FLINT	1240	3584	3939	TOLFO	1197	3462	3656	GREEN BAY	1487	4313	4589
DENVER	1277	3559	3388	GRAND RAPIDS	1212	3614	3809	YOUNGSTOWN	1077	3226	3614	LA CROSSE	1453	4119	4321
GRAND JUNCTION	1487	3608	3431	HOUGHTON LAKE	1380	4300	4448					MADISON	1416	4163	4439
PUEBLO	1192	3245	3190	LANSING	1233	3694	3878	OKLAHOMA				MILWAUKEE	1340	3796	4165
				MARQUETTE U	1482	4367	4532	OKLAHOMA CITY	922	2207	2283				
CONNECTICUT				MUSKOGEE	1229	3637	3787	TULSA	951	2237	2282	WYOMING			
BRIDGEPORT	984	2529	2919	SAULT STE MARIE	1564	4891	5028					CASPER	1432	4391	4227
HARTFORD	1134	3181	3600					OREGON				CHEYENNE	1264	4134	3993
				MINNESOTA				ASTORIA	803	3051	2892	LANDER	1451	4541	4526
DELAWARE				DULUTH	1843	5605	5519	BURNS U	1184	3970	4133				
WILMINGTON	886	2388	2827	INTERNATIONAL FALLS	2027	5904	6113	EUGENE	790	2640	2682				
				MINNEAPOLIS	1642	4589	4730	MEACHAM	1284	4566	4319				
DIST OF COLUMBIA				ROCHESTER	1611	4624	4742	MEDFORD	809	2424	2852				
WASHINGTON DULLES	837	2599	2924	ST CLOUD	1779	5038	5136	PENDLETON	1064	2937	3139				
WASHINGTON NATIONAL	677	1891	2481					PORTLAND	832	2512	2748				
				MISSISSIPPI				SALEM	845	2753	2735				
FLORIDA				JACKSON	327	1047	1465	SEXTON SUMMIT P	1059	3958	3372				
APALACHICOLA U	40	458	866	MERIDIAN	259	946	1547					PENNSYLVANIA			
DAYTONA BEACH	0	264	550					ALLTOWN	1036	2915	3332				
FORT MYERS	0	159	284					FRIE	1077	3234	3720				
JACKSONVILLE	31														

COOLING DEGREE DAYS

(Base 65°F.)

July 1964

State and station	Current season		Normals January through this month	State and station	Current season		Normals January through this month	State and station	Current season		Normals January through this month	State and station	Current season		Normals January through this month	
	This month	Period January through this month			This month	Period January through this month			This month	Period January through this month			This month	Period January through this month		
ALABAMA				HAWAII				NEBRASKA				SOUTH CAROLINA				
BIRMINGHAM	4	4		HILLO	299	299		GRAND ISLAND	0	0		CHARLESTON	41	41		
BIRMINGHAM	0	0		HONOLULU	300	300		LINCOLN	0	0		CHARLESTON U	35	35		
MOBILE	85	85		KAHULUI	277	277		NORFOLK	0	0		COLUMBIA	29	29		
MONTGOMERY	16	16		LIHUE	300	300		NORTH PLATTE	0	0		GRNVLLF-SPRNBG	1	1		
								OMAHA	0	0						
ALASKA				IDAHO				SCOTTSBLUFF	0	0		SOUTH DAKOTA				
ANCHORAGE	0	0		BOISE	0	0		VALENTINE	0	0		ARDFEEN	0	0		
ANNETTE	0	0		LEWISTON	0	0						HUON	0	0		
BARROW	0	0		POCATELLO	0	0						RAPID CITY	0	0		
BADTER ISLAND	0	0						NEVADA				SIOUX FALLS	0	0		
BETHLE	0	0		ILLINOIS				ELKO	0	0						
BETTLES	0	0		CAIRO U	0	0		FLY	0	0		TENNESSEE				
BIG DELTA	0	0		CHICAGO WABF	0	0		LAS VEGAS	0	0		BRISTOL	0	0		
COLD BAY	0	0		CHICAGO MIDWAY	0	0		RENO	0	0		CHATTANOOGA	0	0		
FAIRBANKS	0	0		MOLINE	0	0		WINNEMUCCA	0	0		KNOXVILLE	0	0		
GULKANA	0	0		PEORIA	0	0						MEMPHIS	6	6		
HOMER	0	0		ROCKFORD	0	0		NEW HAMPSHIRE	0	0		NASHVILLE	0	0		
JUNEAU	0	0		SPRINGFIELD	0	0		CONCORD	0	0		OAK RIDGE R	0	0		
KING SALMON	0	0					MT WASHINGTON OBS	0	0							
KOTIAK	0	0		INDIANA				NEW JERSEY				TEXAS				
KOTZERBUE	0	0		EVANSVILLE	0	0		ATLANTIC CITY	0	0		ABILENE	0	0		
MC GRATH	0	0		FORT WAYNE	0	0		ATLANTIC CITY U	0	0		AMARILLO	0	0		
NOME	0	0		INDIANAPOLIS	0	0		NEWARK	0	0		AUSTIN	6	6		
ST. PAUL ISLAND	0	0		SOUTH BEND	0	0		TRENTON U	0	0		BROWNSVILLE	83	83		
SHUMMIT	0	0										CORPUS CHRISTI	52	52		
TALKEETNA	0	0		IOWA				NEW MEXICO				DEL RIO	2	2		
UNALAKLEET	0	0		BURLINGTON	0	0		ALBUQUERQUE	0	0		EL PASO	0	0		
YAKUTAT	0	0		DES MOINES	0	0		CLAYTON	0	0		FORT WORTH	0	0		
				DUBUQUE	0	0		POSWELL	0	0		GALVESTON U	10	10		
ARIZONA				SIOUX CITY	0	0						HOUSTON INTERCON	24	24		
FLAGSTAFF	0	0		WATERLOO	0	0		NEW YORK				LIVROCK	0	0		
PHOENIX	0	0						ALBANY	0	0		MIDLAND	0	0		
TUCSON	0	0		KANSAS				BINGHAMTON	0	0		PORT ARTHUR	27	27		
WINSLOW	0	0		CONCORDIA	0	0		BUFFALO	0	0		SAN ANGELO	3	3		
YUMA	0	0		DODGE CITY	0	0		NEW YORK U	0	0		SAN ANTONIO	11	11		
				GOODLAND	0	0		NEW YORK KENNEDY	0	0		VICTORIA	20	20		
ARKANSAS				TOPKA	0	0		NEW YORK LA GUARDIA	0	0		WACO	0	0		
FORT SMITH	0	0		WICHITA	0	0		ROCHESTER	0	0		WICHITA FALLS	0	0		
LITTLE ROCK	0	0					SYRACUSE	0	0							
CALIFORNIA				KENTUCKY								UTAH				
BAKERSFIELD	0	0		COVINGTON	0	0		NORTH CAROLINA				MILFORD	0	0		
BISHOP	0	0		LEXINGTON	0	0		ASHEVILLE	0	0		SALT LAKE CITY	0	0		
BLUE CANYON	0	0		LOUISVILLE	0	0		CAPE HATTERAS D	7	7		WENDOVER	0	0		
FUREKA	0	0					CHARLOTTE	0	0							
FRESNO	0	0		LOUISIANA			GREENSBORO	0	0		VERMONT					
LONG BEACH	0	0		ALEXANDRIA	26	26		RALEIGH	0	0		BURLINGTON	0	0		
LOS ANGELES	0	0		BATON ROUGE	57	57		WILMINGTON	25	25						
LOS ANGELES U	3	3		LAKE CHARLES	34	34						VIRGINIA				
MT SHASTA R	0	0		NEW ORLEANS	71	71		NORTH DAKOTA				LYNCHBURG	0	0		
OAKLAND	0	0		SHREVEPORT	7	7		BISMARCK	0	0		NORFOLK	3	3		
RED BLUFF	0	0					FARGO	0	0		PICHMOND	0	0			
SACRAMENTO	0	0		MAINE			WILLISTON	0	0		POANOKE	0	0			
SANDRIDGE R	0	0		CARIBOU	0	0					WALLOPS ISLAND	0	0			
SAN DIEGO	0	0		PORTLAND	0	0		OHIO								
SAN FRANCISCO	0	0					AKRON	0	0		WASHINGTON					
SAN FRANCISCO II	0	0		MARYLAND			CINCINNATI ABFF OB	0	0		OLYMPIA	0	0			
SANTA MARIA	0	0		BALTIMORE	0	0	CLEVELAND	0	0		QUILLAYUTE	0	0			
STOCKTON	0	0					COLUMBUS	0	0		SEATTLE	0	0			
				MASSACHUSETTS			DAYTON	0	0		SEATTLE-TACOMA	0	0			
COLORADO				BLUE HILL OBS R	0	0	MANSFIELD	0	0		SPOKANE	0	0			
ALAMOSA	0	0		BOSTON	0	0	TOLEDO	0	0		STAMPEDE PASS D	0	0			
COLORADO SPRINGS	0	0		WORCESTER	0	0	YOUNGSTOWN	0	0		WALLA WALLA U	0	0			
DENVER	0	0									YAKIMA	0	0			
GRAND JUNCTION	0	0		MICHIGAN			OKLAHOMA									
PUEBLO	0	0		ALPENA	0	0	OKLAHOMA CITY	0	0		WEST INDIES					
				DETROIT	0	0	TULSA	0	0		SAN JUAN P.R.	390	390			
CONNECTICUT				DETROIT METRO	0	0		OREGON				WEST VIRGINIA				
BRIDGEPORT	0	0		FLINT	0	0	ASTORIA	0	0		BECKLEY	0	0			
HARTFORD	0	0		GRAND RAPIDS	0	0	BURNS U	0	0		CHARLESTON	0	0			
				HOUGHTON LAKE	0	0	EUGENE	0	0		ELKINS	0	0			
DELAWARE				LANSING	0	0	MEACHAM	0	0		HUNTINGTON	0	0			
WILMINGTON	0	0		MARQUETTE U	0	0	MEDFORD	0	0		PARKERSBURG U	0	0			
				MUSKEGON	0	0	PORTLETON	0	0							
DIST. OF COLUMBIA				SAULT STE MARIE	0	0	PORTLAND	0	0							
WASHINGTON DULLES	0	0					SALEM	0	0		WISCONSIN					
WASHINGTON NATIONAL	0	0		MINNESOTA			SEXTON SUMMIT R	0	0		GREEN BAY	0	0			
				DULUTH	0	0		PACIFIC AREA				LA CROSSE	0	0		
FLORIDA				INTERNATIONAL FALLS	0	0	GLAM TAG JAC D	393	393		MADISON	0	0			
APALACHICOLA U	67	67		MINNEAPOLIS	0	0	JOHNSTON	406	406		MILWAUKEE	0	0			
DAYTONA BEACH	147	147		ROCHESTER	0	0	KNOX D	504	504		WYOMING					
FORT MYERS	254	254		ST CLOUD	0	0	KWAJALEIN	521	521		CASPER	0	0			
JACKSONVILLE	92	92					MAJURO	469	469		CHEYENNE	0	0			
KEY WEST	371	371		MISSISSIPPI			PAGO PAGO	488	488		LANDER	0	0			
LAKELAND U	193	193		JACKSON	25	25	RONAPF R	464	464		SHERIDAN	0	0			
MIAMI	294	294		MOBILIAN	27	27	TRUK MOEN ISLAND	508	508							
ORLANDO	213	213					WAKE	368	368							
PENSACOLA	93	93		MISSOURI			YAD D	452	452							
TALLAHASSEE	88	88		COLUMBIA REGIONAL	0	0					PENNSYLVANIA					
TAMPA	196	196		KANSAS CITY	0	0	ALLENTOWN	0	0		ERIE	0	0			
WEST PALM BEACH	262	262		ST JOSEPH	0	0	HARRISBURG	0	0		PHILADELPHIA	0	0			
				ST LOUIS	0	0	PITTSBURGH	0	0		SCRANTON	0	0			
GEORGIA				SPRINGFIELD	0	0	WILLIAMSPORT	0	0							
ATHENS	0	0									RHODE ISLAND					
ATLANTA	0	0		MONTANA			BLACK ISLAND	0	0		PROVIDENCE	0	0			
AUGUSTA	1	1		BILLINGS	0	0										
COLUMBUS	18	18		GLASGOW	0	0										
MACON	17	17		GREAT FALLS	0	0										
ROME	0	0		HAVRE	0	0										
SAVANNAH	52	52		HLENA	0	0										
				KALISPELL	0	0										
				MILES CITY	0	0										
				MISSOULA	0	0										

STORM SUMMARY

JANUARY 1974

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	DAMAGE	DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE	
								PROP. ERTY	CROPS			PROP. ERTY	CROPS			PROP. ERTY	CROPS			PROP. ERTY	CROPS			PROP. ERTY	CROPS			PROP. ERTY	CROPS
Alabama	5	3	1	6	5						7	5																	
Alaska										?	?	6																	
Arizona	*																												
Arkansas	1	1		2	4									1															
California													?																
Colorado																													
Connecticut																		5		3									
Delaware																				1									
Florida	1	1		4	5																								
Georgia	5	3		1	5							3																	
Hawaii	1	1																											
Idaho											1	4																5	
Illinois												3																8	
Indiana											7	4																	
Iowa	*																												
Kansas												4																	
Kentucky												5																	
Louisiana	2	1			4						3	1										3					5	5	
Maine										1	10	4																	
Maryland & D.C.	1	1			3																								
Massachusetts												5						3											
Michigan												5																	
Minnesota	*																												
Mississippi	5	1		9	5						16	5																	
Missouri																													
Montana												6																	
Nebraska	*																												
Nevada												4																	
New Hampshire												5																	
New Jersey																													
New Mexico	*																												
New York										1	?	6						?		?									
North Carolina	*																												
North Dakota	*																												
Ohio	1	1		2	5						7	5																	
Oklahoma																													
Oregon																													
Pacific Area																													
Pennsylvania																													
Puerto Rico	*																	11		4									
Rhode Island	*																												
South Carolina												2																	
South Dakota	*																												
Tennessee																													
Texas	2	2		3	6			6			7	5			4													5	
Utah																													
Vermont																													
Virginia												5																	
Virgin Islands	*											3																	
Washington												6						14		4								4	
West Virginia												4																	
Wisconsin	*																												
Wyoming											2	6	C																

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

JANUARY 1974

Herbert J. Thompson and Ray J. Haley,
Office of Hydrology

The extensive flooding which occurred in many areas of the country during January was marked by a major flood in the Pacific Slope Drainage with record crest stages reported at several locations. This flooding was comparable to that which occurred in 1955 and 1964 with preliminary estimates of damage approaching \$200 million, and estimates for many areas not yet available.

Record flooding also occurred in the Guyandot River Basin in West Virginia with

major flooding in other portions of the Ohio Drainage and the Lower Mississippi Basin. Snowmelt flooding was frequent throughout the Upper Midwest, in many cases complicated by ice jams. Minor to moderate flooding occurred along the South Atlantic Slope Drainage and the East and West Gulf Coast Drainages.

Hydrologic events of unusual significance or involving loss of life or property damage are discussed in more detail below.

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
ST. LAWRENCE DRAINAGE			
Grand River Basin (Michigan)	A rise in December from snowmelt and rain crested on December 31. The stream then receded slowly until near the middle of the month when snowmelt augmented by about 2 inches of rain January 19-23, and up to 1 inch on the 26th-27th, caused a rise which flooded lowland areas in Ionia, Kent, and Ottawa counties. Numerous roads and 150 to 175 dwellings were affected but only a few evacuations occurred. Minor flooding also occurred along the Red Cedar River at Williamston and East Lansing.	0	N.A.
Maumee River Basin	Snow cover over the basin ranged from 4 to 18 inches with water equivalent of 2 to 3.5 inches during the first part of the month. Melting of this snow caused significant flooding during the latter half of the month. Crests stages ranged from 2 feet in the lower reaches to nearly 8 feet above flood stage on some of the headwater streams.	0	N.A.
ATLANTIC SLOPE DRAINAGE			
Pee Dee River Basin	Flooding occurred in the vicinity of Pee Dee, SC, with logging operations affected. Machinery was evacuated successfully.	0	0
Santee River Basin	Rainfall of 2 to 2.5 inches fell over the headwaters of the Broad and Saluda Rivers on January 1. Minor flooding occurred on the Broad River around Blair, SC, and above Lake Greenwood on the Saluda River. Downstream on the Congaree River lowland flooding occurred with damage to a bridge under construction estimated at \$5,000.	0	5

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

JANUARY 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
EAST GULF OF MEXICO DRAINAGE			
Tombigbee River Basin	Flooding which began late in December extended well into January. Stages were generally receding along the Black Warrior River but conditions worsened along the Tombigbee River as the above normal rainfall persisted during the month. Several distinct crests of up to 14 feet above flood stage occurred along the Tombigbee as the lower reaches of the stream remained above flood stage the entire month. Later in the month two short periods of minor flooding were reported along the Black Warrior. Damage over and above those reported in December was estimated at \$775,600 along the main stem of the Tombigbee, \$256,400 on the East Fork, and \$72,700 on Tibbee Creek. Damage was about 70 percent agricultural, 15 percent to roads and railroads, and 15 percent urban.	0	1,105
Pascagoula River Basin	Flooding continued at the beginning of the month from December. Late in the month Tallahala Creek flooded lower sections of Laurel, MS, and several families had to be evacuated.	0	N.A.
Pearl River Basin	Rainfall during January was well above normal with most stations reporting monthly totals of 8 to 15 inches. Highest total was at Vicksburg, MS, which had over 18 inches. The flooding which began late in December continued throughout the month along most of the stream.	0	395
UPPER MISSISSIPPI BASIN			
Rock River Basin	Snowfall over the basin was well above average during the first half of the month. Warming temperatures and two periods of rainfall each averaging 1.5 to 2.0 inches caused significant flooding along the Rock River and several of its tributaries including the Pecatonica and Kishwaukee Rivers. On the lower Rock River two significant flood crests occurred.	0	N.A.
Iowa, Skunk and Des Moines River Basins	Mild temperatures with snowmelt and rainfall of 0.25 to 1.0 inches on the 19th and 1.0 to 1.5 inches on the 26th caused rises on streams in southeastern Iowa. Minor flooding occurred along the Iowa and Skunk Rivers. A large ice jam formed on the Des Moines extending from Farmington to the mouth. The resulting backwater caused flooding in the small town of Bonaparte.	0	25
Upper Mississippi and Illinois Rivers	An unseasonably heavy accumulation of snow occurred during the latter part of December with up to 12 inches reported over the Upper Mississippi watershed. A warming trend with attendant snowmelt augmented by general	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

JANUARY 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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UPPER MISSISSIPPI BASIN-Con't

heavy rains caused rises on most streams in the area with flooding on the Mississippi late in January from Hannibal, MO, downstream. Crests of up to about 3 feet over flood stage were reported. Flooding occurred along the entire length of the Illinois River with crests 3 to 6 feet over flood stage. On the lower Illinois flooding lasted at least into March.

MISSOURI BASIN

Kansas River Basin	As a result of snowmelt, streams in eastern Kansas ran one-half to three-quarters bank-full on the 20th-26th. An ice jam below Lecompton, KS, caused 3 to 4 feet overflow of agricultural lands with no damage at this season of the year.	0	0
Lower Missouri River Basin	Snowmelt and ice action caused flooding on the Lower Missouri and some of its tributaries during the month. An ice jam on the Missouri above Atchison, KS, caused 4 to 5 feet overflow as far upstream as Rulo, NE, on the 17th-25th. Near Falls City, NE, 500 cattle were drowned when trapped by rising water behind a levee. When the ice jam broke the resulting flood wave caused crests of 2 feet over flood stage at Atchison, KS, and near flood stage at Lexington, MO. Ice jams also caused flooding along the 102, Platte, North Grand, Lamine, and Blackwater Rivers, all in Missouri.	0	N.A.

OHIO BASIN

Monongahela River Basin	Heavy rains over the headwaters of the Monongahela River beginning on the 10th caused flooding along the West Fork, Tygart, and main stem of the Monongahela River. Crests ranged up to more than 7 feet over flood stage but overflows were generally in the order of 1 to 3 feet.	0	N.A.
Little Kanawha, Kanawha, Guyandot, and Big Sandy River Basins	Record flooding occurred along the Guyandot River and major flooding along the Tug Fork of the Big Sandy River on the 10th-12th with minor flooding along the Little Kanawha, Coal River tributary of the Kanawha, and the lower Big Sandy River. Rainfall during the period averaged about 4 inches over the Tug Fork and Guyandot Basins, 3 inches over the headwaters of the Kanawha, and 2 inches over the Little Kanawha. The greatest damage occurred in West Virginia along the Guyandot River, with an estimated loss of \$5 million in Logan County alone of which \$4 million was in the City of Logan. Damage of \$1.8 million was reported in Lincoln County, primarily in the city of Bruchland, and \$1 million in Mingo County of which \$700,000 occurred in Williamson. Other	0	9,325

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

JANUARY 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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OHIO BASIN-Con't

West Virginia counties reporting damage were Cabell, \$100,000; Wayne, \$160,000; and Kanawha, \$815,000. In Kentucky, Johnson County reported \$200,000 damage and Pike County \$250,000. Of the nearly \$9 million damage in West Virginia, \$6 million was to private property and \$1 million was for clearing debris.

The crest stage of 44.3 feet at Branchland was 0.3 foot higher than the previous record stage which occurred in 1907, while at Logan the crest stage of 30.81 feet was 0.3 foot lower than that of 1913, but more than 4 feet lower than the record stage of 1963, making it the third highest stage of record at this point.

Kentucky River Basin	Major flooding occurred in the basin as a result of heavy rains on the 9th-12th. Storm totals in excess of 4 inches were recorded at many points. Most seriously affected was the town of Jackson, KY, on the North Fork Kentucky River where a crest more than 7 feet over flood stage was observed.	0	N.A.
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Green River Basin	Heavy precipitation fell over the basin on the 8th-10th with storm totals exceeding 5 inches at some points. Severe flooding occurred along the middle and lower reaches of the stream. Crest stages of 12 to 15.5 feet above flood stage were reported along the middle portion of the river. Flooding continued into February along the lower Green River.	0	N.A.
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Wabash River Basin	The middle and lower Wabash and lower White Rivers were above flood stage as the month began. By the 8th all points had fallen below flood stage but remained at above-normal levels. Beginning on the 20th, warming temperatures and period of moderate rainfall completely melted the 3 to 10-inch snow cover over the middle and upper portions of the basin. Runoff was high due to saturated soil conditions.	0	8,625
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The Wabash River below Lafayette, IN, crested at the highest stages recorded in the last 5 years. Large areas of bottomland, some agricultural levees, and numerous secondary roads were overflowed. Precautionary evacuation of several families in the Terre Haute, IN, area was necessary. Estimates of damage by the Corps of Engineers for principal areas involved are: Wabash River, Huntington Dam to Mt. Carmel, \$6,180,000 with 143,000 acres inundated; Embarrass River, Lincoln Damsite (mile 106) to Wabash River, \$484,000 with 26,000 acres inundated; White River, Pipe Creek to Wabash River, \$1,670,000 with 55,000 acres

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

JANUARY 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
OHIO BASIN-Con't			
	inundated; Lower Eel River, Cagles Mill Dam to White River, \$44,000 with 20,000 acres inundated; and East Fork White River, Columbus to White River, \$242,000 with 29,000 acres inundated. Less than 10 percent of this damage was to crops. Flooding in this basin extended into February.		
Cumberland River Basin	Moderate flooding occurred along portions of the Upper and Middle Cumberland River, and the Red, Harpeth, and Stones Rivers which are major tributaries of the Cumberland in Tennessee. General rains of 0.5 to 1.0 inch on the 8th and 9th and heavy rains of 3 to 4 inches on the 10th were the cause of the flooding. Damage in the city of Pineville and Bell County, KY amounted to \$674,000 with 200 dwellings affected and 2,000 acres inundated. Savings from warnings issued were estimated at \$250,000. Crest stages were not unusually high in the Upper Cumberland area but at Nashville and Clarksville, TN, they were the highest since 1962. However, damage was minimal on the main stem, probably as a result of adequate warnings. Moderate damage occurred along the Harpeth and Stones Rivers and was estimated at \$339,000 with 50 dwellings affected and 5,000 acres inundated.	0	N.A.
Tennessee River Basin	Heavy rainfall during the 8th-10th over the Elk and Duck River basins caused flooding along those streams. Storm totals for the period were 6-7 inches. Crest stages were 4.5 feet over flood stage on the Elk River and 8-11 feet over flood stage on the Duck River. The lower reaches of the main stem of the Tennessee River were above flood stage most or all of the month.	0	N.A.
Ohio River	Heavy rains during the middle of the month over tributary streams along the eastern side of the basin and snowmelt runoff from the Wabash Basin combined to produce flooding along the Ohio River from West Virginia to the mouth. In the upper reaches flooding was only of 1 to 2 days duration and crests were 1 to 2 feet over flood stage. The extreme lower end of the Ohio was in flood the entire month with crests up to 14 feet above flood stage.	0	N.A.
WHITE BASIN			
White, Black, and Cache Rivers	The Cache and lower White Rivers remained above flood stage the entire month aided by heavy rain on the 10th-11th which also brought the lower Black River back over flood stage.	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

JANUARY 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
RED BASIN			
Sulphur River	There were two periods of heavy rainfall during the month. From 0.75 to 1.50 inch occurred on the 9th-11th and more than 2 inches on the 18th-20th. Both storms produced flooding at Hagansport, TX, with crests about 3 feet over flood stage. Downstream at Naples, TX, minor flooding continued from December to the first of the month, followed by more significant flooding the last half of the month caused by the above mentioned rain, and extending into February.	0	N.A.
Ouachita, Black and Red Rivers	Much above normal rainfall occurred over most of Louisiana this month. It was the second wettest January of record at Alexandria. Monthly totals over the Ouachita - Black Basin ranged from about 10 to over 17 inches. Flooding occurred along the Ouachita and Black Rivers and the Red River below Alexandria. There are no official reporting stations below Alexandria, but flooding was reported to have begun about the 26th.	0	N.A.
LOWER MISSISSIPPI BASIN			
St. Francis River	Flooding which began in December continued into the first part of January. Rainfall on the 18th-20th caused a rise to above flood stage the last of the month which continued into February on the lower St. Francis.	0	N.A.
Talla- hatchie, Yazoo and Big Black Rivers	Flooding which began in December continued throughout the month on these streams maintained by the abnormally heavy rainfall during the month. Rainfall totals for January ranged up to the nearly 19 inches reported at Vicksburg, MS. Most seriously affected was the Yazoo Basin where many roads were closed and 42 families were evacuated from portions of Sharkey, Issaquens, and Warren counties.	0	N.A.
Lower Mississippi River	The rise which began on the Lower Mississippi in December continued throughout January going above flood stage in the upper reach early in the month and in the reach from Vicksburg, MS, to Donaldsonville, LA, later in the month. This rise was maintained by heavy inflow from the Ohio River Basin the middle of January. At all points crest stages occurred in February. The most serious flooding occurred upstream with nearly 7 feet of overflow into the unprotected lowlands of Tennessee.	0	N.A.
WEST GULF OF MEXICO DRAINAGE			
Mermentau and Cal- casieu Basins	Abnormally heavy rainfall occurred over both basins during January with monthly totals ranging up to 15.43 inches at Mermentau, LA, and from 11 to over 14 inches in the Calcasieu Basin. Two periods of flooding occurred	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

JANUARY 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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WEST GULF OF MEXICO DRAINAGE-Con't

in both basins.

Sabine, Neches and Trinity Rivers	Five periods of significant rainfall occurred over north central and northeast Texas during January with amounts generally 1 to 2 inches each time but ranging up to 4 inches in some areas. In southeast Texas general rainfall occurred during the 19th-26th with the heaviest amounts, up to 5 inches, reported on the 19th-20th. Flooding occurred along most of the length of the Sabine River with crests generally 3 to 7 feet over flood stage. Damage appears to have been minor except in the Deweyville area where the river was above flood stage the entire month and some property loss occurred. Flooding also occurred along much of the Neches River with crests generally in the range of 2 to 5 feet over flood stage. Damage of \$81,000 was estimated by the Corps of Engineers for the reach from Rockland down to Spurger Dam B on the Upper Neches.	0	N.A.
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Most seriously affected were Hardin, Orange, and Jefferson Counties. An emergency request of \$177,000 was needed for road repairs in Orange County. Damage along Village Creek and Pine Island Bayou near Beaumont was estimated at \$200,000.

Sharp rises occurred along the Upper Trinity River. At Trinidad the river rose 24 feet in 4 days with minor flooding. Along the lower Trinity flooding occurred from Goodrich to Moss Bluff with crests 3 to 5 feet over flood stage. Releases from Lake Livingston were a factor in this flooding.

San Jacinto Basin	Flooding occurred along the San Jacinto River from Conroe, TX down to Houston and on the East Fork from Cleveland to Houston. Some property damage was reported in the Conroe area of Montgomery County. No river stage reports are received from that area.	0	N.A.
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PACIFIC SLOPE DRAINAGE

Los Angeles area Streams	January rainfall totalled 8.35 inches in Los Angeles as compared with a normal of 3.07 inches. This total was among the five highest in the past 40 years. However, dry soil conditions minimized runoff and low reservoir levels controlled streamflow so that the only stream flooding was at the mouths of the streams and was minor. Street flooding was common in Los Angeles and Orange counties.	0	0
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Sacramento River Basin	Rainfall over the headwaters of the Sacramento River was more than 200 percent of normal for the month. Most of this rain-	0	N.A.
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GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

JANUARY 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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PACIFIC SLOPE DRAINAGE-Con't

fall was concentrated in the period of the 12th-20th. Flood stage was exceeded by 5 to 7 feet from Bend Bridge to Vina Woodson Bridge on the Upper Sacramento with warning stage exceeded at most points below. Serious flooding also occurred on smaller tributaries of the Sacramento. Damage in Shasta County was estimated at \$3 million with damage heavy in Tehama and Glen counties also. Agricultural lands were flooded and levees, roads, bridges, and waterways were damaged. More than \$1 million damage occurred in the city of Dunsmuir on the upper Sacramento.

Russian River Basin	Major flooding occurred when a storm front stalled over the basin depositing 6-12 inches of rain in a 3-day period on the 15th-17th. Crest stages ranged up to 11.5 feet over flood stage at Summerhome, CA.	0	7,325
Eel, Trinity and Klamath River Basins	The storm of the 15th-19th caused major flood damage, particularly along smaller tributaries. Preliminary estimates include \$6 million damage and 4,000 acres inundated in Humboldt county; \$5.5 million damage in Trinity County, and \$5 million damage in Siskiyou County. Heavy damage also occurred in Mendocino County.	3	N.A.
Rogue, Coquille, and Umpqua Basins	The month featured record, near record, or general major flooding throughout the Medford River District. Flooding was widespread over all of western Oregon but seemed to be concentrated west of the Cascade mountains and centered over southern Oregon and northern California. Major damage and at least three deaths directly attributed to the flood resulted.	3	44,088

The two primary river drainage systems, the Rogue and Umpqua Rivers along with the shorter Coquille River on the coasts, were directly involved. Portions of the Rogue and Umpqua drainages either exceeded prior record flood levels or approached record levels.

The more significant flooding occurred along the Applegate River draining the mountain area along the Oregon-California border and along Cow Creek feeding into the south Umpqua River and the South Fork, Umpqua River. The river gaging station on the Applegate River near the town of Applegate, OR, recorded an alltime high of 20.41 feet, nearly one foot over the previous record established during the December 1964 flood. The gaging station on Cow Creek near Riddle, OR, recorded a crest slightly over the previous record of 1964 at 27.89 feet. Flood stage at Applegate is 13 feet and 18 feet near Riddle, OR. The crest readings at Winston, and Roseburg, OR, while not exceeding the

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

JANUARY 1974

Basins
and
Streams

FLOOD EVENT

Lives
Lost

Preliminary Estimate
of Property Damage
(thousands of dollars)

PACIFIC SLOPE DRAINAGE-Con't

1964 flood mark, did exceed the prior record flood set in 1955.

Long southwesterly flow of semi-tropical moisture began to affect the southern Oregon weather pattern on the 12th, changing from an extensive cold period with solidly frozen ground, to a mild warm, rainy period. Freezing levels climbed steadily and by the 14th had reached close to 10,000 feet m.s.l. Heavy rain began on the coast on the 12th-13th, peaking over the interior late on the 15th. Four-day storm totals approached 13 inches with the heaviest concentration over the Applegate River and Cow Creek drainages.

Heaviest losses occurred in Douglas County with more than \$16,600,000 damage and 3200 acres inundated. Nearly 500 residences were affected. In Jackson County more than 100 residences were affected and 800 acres inundated with damage of nearly \$8,800,000, about 30 percent of which was to farm buildings and improvements. In Josephine County, 1200 acres were inundated, 30 residences were affected, and damage totaled more than \$15,200,000, of which 60 percent was to farm buildings and improvements. Coos County reported damage of over \$2,500,000 with 26,000 acres inundated. Curry County reported losses of \$860,000. Costs of \$7 million to rehabilitate facilities in National Forests are included in the above figures.

Spokane
Pend-
Oreille and
Kootenai
Basins

Major flooding with extensive damage occurred in northern Idaho and western Montana during January. Following a two-week cold spell with subzero temperatures, a January thaw started on the 14th followed by a series of storms from the southwest with warm, moist air and heavy rains, especially over northern Idaho, causing the widespread flooding.

0

31,872

Heavy rains occurred across northern Idaho on the 14th, 15th, 16th and 17th, with 9 inches reported at Mullan, near the headwaters of the Coeur D'Alene River. Mullan, at an elevation of 3,300 feet had a snow-depth decrease from 2 feet to 1 inch during this period.

The initial flooding began on the 14th on the smaller streams, with rain and melting snow causing rapid runoff in the steeper terrain. The rampaging creeks picked up the ice accumulation from the preceding cold spell, and ice jams at bridges and culverts were frequent and devastating. Bridges were washed out and roads cut. Troy and

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

JANUARY 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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PACIFIC SLOPE DRAINAGE-Con't

Libby, in Lincoln County, MT, were surrounded by waters from overflowing creeks on the 15th and 16th. Homes were flooded at Pinehurst, Idaho, and Missoula, MT, and several other points.

Rivers behaved erratically until the ice jams cleared, and great surges of water raced downstream. One witness reported that the Blackfoot River near Missoula "rose 25 feet in 30 minutes," above an ice jam.

The Coeur D'Alene and St. Joe Rivers in Idaho were the major streams to reach flood stage in the Spokane River District. The flood knocked out river gages and communications on both rivers. Local residents were evacuated, and were not available to make backup river readings just before and during the crest period.

It was the third greatest runoff volume of record (82 years at Spokane), ranking after 1933 and 1894. The Coeur D'Alene River at Enaville set up a new record stage of 81.3 feet. The previous record crest was 79.5 feet in 1933. The St. Joe River crested at 41.4 feet at St. Maries, ID, where the record crest is 42.2 feet set in 1933.

Damage was particularly heavy at St. Maries on the St. Joe River where 50 homes were destroyed and hundreds of acres covered. Many other towns on the St. Joe River in Benewah County were evacuated. More than 800 people were evacuated from Pinehurst, ID. Libby, MT, on the Kootenai River was isolated when U.S. Highway 2 was cut on both sides of the town. More than 1,500 people were evacuated, and 5 trailer houses and at least one home were washed away.

Preliminary estimates of damage by counties in Idaho are as follows: Shoshone, \$11 million; Kootenai, \$7.5 million; Benewah, \$5.5 million; Bonner, \$4 million; and Boundary, \$1.8 million. In Montana; Lincoln, \$1,718,000; Deer Lodge, \$1,460,000; Sanders, \$110,000; Missoula, \$86,000; and Flathead, \$12,000.

Yakima River Basin	Severe flooding occurred in the Yakima Valley of Washington as ice jams in the river and its tributaries broke up sending water cascading through smaller towns and over highways. The flooding began late on the 14th when rain and moderating temperatures removed a 7-inch snowcover in six hours on the valley floor. Extensive flooding occurred along Ahtanum Creek, Toppenish Creek, and Satus Creek, with some 1,000 families affected and 450 of these displaced. Other damage involved	0	13,792
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GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

JANUARY 1974

Basins
and
Streams

FLOOD EVENT

Lives
Lost

Preliminary Estimate
of Property Damage
(thousands of dollars)

PACIFIC SLOPE DRAINAGE-Con't

washed-out highways, culverts, and bridges which closed Highway 97 between Toppenish and Goldendale for six weeks. Some 90 head of cattle drowned along the Yakima River near Sunnyside, WA. The flood crest discharge on the Yakima River near Parker was the third largest volume for the past 58 years of record, ranking after December 1933 and May 1948. Crest discharge on the Yakima River at Kiona ranked second in volume to the flood of December 1933.

Snake River
Basin in
Idaho

Significant flooding and damage from rapidly fluctuating stages due to ice jams and mud slides occurred during January along the Snake River and several major tributaries, including the Weiser, Payette, and Little Salmon Rivers. The unseasonable cold spell that began the last part of December and lasted through the first 12 days of January froze over most streams in southern Idaho. Sub-zero nighttime temperatures were reported in the Snake River Basin of southwestern Idaho. Boise recorded 5 degrees below zero on the 9th. During this period, 4 to 5 inches of snow accumulated over the lower elevations.

0

N.A.

On the 13th, moderating temperatures set in, and warm rains began over southwest Idaho and through the north central mountains which extended through the 16th with the freezing level rising to near 10,000 feet. With a generous snowpack already at the lower elevations, coupled with rising temperatures and an abundance of rainfall, the snowpack became saturated.

On the 5th ice began to pile up in the stream bed above Farewell Bend on the Snake River. Ice jams began developing at various places along the Weiser River. At 8 a.m. on the 5th a major jam developed on the Weiser River at the Pressley bridge. Other jams developed farther upstream, spilling 6 to 12 inches of water over the banks in the vicinity of the jams.

On the 10th, ice jams developed on the main Salmon River and extended from the confluence of the North Fork upstream some 26 miles. Water spilled over the banks at several places, but the only damage reported was minor to a subdivision below the Carmen Bridge.

On the 12th rains and chinook winds set in, increasing snowmelt. This added to the stream flow dislodging more ice, building jams, and backing water upstream into adjacent lowlands. At Farewell Bend on the Snake River, the stream rose rapidly and began flooding the Weiser Annex that is across the Snake River

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

JANUARY 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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PACIFIC SLOPE DRAINAGE-Con't

on the Oregon side to the west of Weiser. At the first of the flooding six families were evacuated and others were on standby should the water continue to rise. At about 2 p.m. on the 15th, the jam at Farewell Bend broke loose with a rapid drop in the flooded area.

During this same period a jam built on the Payette River below Horseshoe Bend above Montour. Near noontime on the 15th, this ice jam suddenly broke loose flooding the town of Montour and adjacent farm residences and farmland with two or more feet of water and blocks of ice. No life was lost, although 15 head of cattle perished. There was heavy damage to farmland, residences, and roadways. Three families were reported to have been evacuated.

In Custer County at Challis, Garden Creek began to rise rapidly breaking ice loose and piling it up at the bridges diverting the streamflow through the residential area of Challis. Water seeped into many basements, and two bridges were reported to be lost.

At the Warfield Bridge on the Weiser River near Cambridge, ID, water was backed up several feet deep by an ice jam at the mouth of Pine Creek flooding three residences. Damage to these homes was considerable. The 15th was the beginning of major flooding on the Weiser River. The volume of water increased as several ice jams upstream gave way developing a large jam at the Pressley Bridge. The ice moving into this jam wiped out the gaging station at Weiser 10 ENE. The large volume of water and ice broke through the jam only to re-establish at the lower Unity Bridge forcing water to flow over farmland and through some residential sections. Some 100 residences were damaged by these flood waters. The peak flow was reported on the night of the 16th, with a continuous decrease thereafter. The damage to private property is estimated at \$400,000.

On the 16th the Potlatch River, a northern tributary of the Clearwater River, jammed with ice and overflowed onto the highway between Juliaetta and Arrow. Water was reported to have been 6 feet deep and ice chunks of 3 to 4 feet square were piled 6 feet high on the roadway.

On the 15th the Little Salmon River began to rise, developing an ice jam at the northernmost portion of the New Meadows plateau. Should this jam have broken suddenly, severe

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

JANUARY 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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PACIFIC SLOPE DRAINAGE-Con't

flooding would have resulted downstream. Downstream from the New Meadows plateau the canyon walls were saturated by melting snow and heavy rain. Mud slides developed sending tons of rock and soil with other debris thundering down the hillsides. Two major slides developed; one about 2 miles south of Pollock dumped some 350,000 cubic feet of rock and soil across the Little Salmon River forcing the stream to flow over the highway washing out some 3,000 feet of roadway. This same slide, in all practicality, wiped out the Morganroth Ranch. Mud, boulders, and debris poured out of the Indian Creek canyon for about 24 hours spreading to a depth of several feet over the pasture land. Several head of sheep were lost in the muck and mire. At the peak of the onslaught the roaring water and debris burst across the Little Salmon River slamming into the highway grade and was reported to have curled up similar to an ocean wave.

On the 18th the flow on the Little Salmon River decreased considerably as the water level dropped about 4 feet. The Idaho Fish and Game Department is concerned about the potential fish loss due to the excessive silt and water erosion of the stream. Many of the spawning beds for chinook salmon and steelhead have been either destroyed or covered with several feet of silt and sand. This damage may not be assessable for several years.

On the 23d Antelope Creek in Butte County lacked drainage to carry the water to spread out over the flats. Culverts and other drainage systems were plugged by debris, and when cleared, the water receded. Several residences and businesses in the area were flooded with 9 or more inches of water.

Palouse River Basin	The Palouse River flooded 12 businesses in Palouse, WA, on the 16th. A new 18-year record was set at Colfax, Wa, where the crest stage was 13.45 feet, exceeding the 10.75 feet crest reported on Dec. 24, 1964.	0	77
Klickitat River Basin	Chinook weather which removed 10 inches of snow cover caused damaging floods in the Klickitat basin. Roads, five bridges, and about 100 culverts were washed out and 17 homes destroyed. The water system of Klickitat was destroyed as the community was nearly isolated. The Klickitat River near Pitt, WA, crested at 17.12 feet on the 16th, exceeding the previous record of 14.34 feet set in December 1964.	0	479
White Salmon and	Damaging flooding occurred in the portions of Klickitat and Skamania Counties of Wash-	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

JANUARY 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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PACIFIC SLOPE DRAINAGE-Con't

Wind River Basins	ington drained by these streams. Loss of a 27-inch snowcover at Glenwood, WA, was reflected in the record crest of 12.85 feet on the White Salmon River near Underwood. A new record crest of 21.91 feet was also reported at Carson, WA, on the Wind River. The previous record of 19.29 was recorded Jan. 20, 1972.		
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Willamette River and North Coastal Streams in Oregon	Precipitation in northwestern Oregon was nearly twice normal during January. Accumulated amounts for October through January averaged 175 percent to 185 percent of normal for the second wettest such season since the record was set in the winter of 1963-1964. Monthly totals were 10-20 inches in the Willamette Valley, 12-18 inches in the Northern Cascades, and 14-24 inches along the northern coastal area. Most stations recorded over 3 inches of rain on the 15th with up to 4.25 inches recorded at Alsea Fish Hatchery.	0	17,699
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Extensive flooding occurred in western Oregon including the lower Willamette Valley where precipitation between the 12th and 17th totaled 9-14 inches and pushed streams 3-8 feet over flood stage downstream from Harrisburg. A new record was set on the Mary's River at Philomath which crested at 20.9 feet, exceeding the old record of 20.72 feet of December 1964. Several other rivers experienced their second or third highest flood of record which included a stage of 45.04 feet on the South Yamhill River at Whiteson, 14.4 feet on the Molalla River at Canby, 35.14 feet on the Tualatin River at Farmington, 25.63 feet at Oswego 3 SW, 24.54 feet on the Alsea River at Tidewater, and 28.06 feet on the Siuslaw River at Mapleton. Inundated lands were particularly bothersome in the Tualatin Basin where some 200 families were evacuated in the area. Families were also evacuated along the Clackamas River, Johnson Creek, and the Wilson River near Tillamook. The American Red Cross reported that 49 homes and businesses received major flood damage and 110 homes experienced minor damage. Roads were flooded in scattered locations and small mudslides also blocked some roads. No lives were lost directly from flooding even though 17 counties were declared disaster areas. Damage totaled \$4,398,000 along the coastal streams and \$13,301,000 in the Willamette Valley.

Western Washington Streams	Several western Washington rivers rose to above flood levels between the 15th and the 19th as a result of prolonged heavy warm rain which began the 12th. Highest river levels occurred on the 16th and 17th.	0	1,951
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GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

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Basins
and
Streams

FLOOD EVENT

Lives
Lost

Preliminary Estimate
of Property Damage
(thousands of dollars)

PACIFIC SLOPE DRAINAGE-Con't

Precipitation gages on the west slopes of the Cascade Mountains registered totals of from 5.5 to 11 inches of rain for the five days of the 13th through the 17th. During this same interval lowland gages measured totals of from 2 to 6 inches which tends to indicate that much of the headwaters precipitation was the result of a strong orographic influence.

Dominant cold high pressure during the first eleven days of the month over all of the Pacific Northwest began to be eroded by a strong warm southwesterly flow during the morning of the 12th. The warm and wet air overran the cold from central Oregon north-eastward over the crest of the Cascades and into southern British Columbia, finally reaching the ground over all of Washington and Oregon by the evening of the 13th. The freezing level over western Washington rose from near 2,000 feet on the morning of the 12th to 7,200 feet by the afternoon of the 13th and remained near 6,000 feet until the morning of the 16th.

Mountain snow pack at Stampede Pass in the Cascades dropped from a depth of 98 inches on the 13th to 80 inches on the 17th in the warm air and rain.

Flooding on these streams was not of the same magnitude as that experienced to the east and south. Preliminary estimates of damage by the Corps of Engineers include: \$155,000 in the Skagit Basin; \$700,000 in the Snohomish Basin; \$450,000 in the Chehalis Basin; and \$646,000 in the Cowlitz and Lewis Basins.

ALASKA

Saga-
vanirktok
River

Early in the month warm temperatures and a rare rainfall caused flooding over the ice on the Sagavanirktok River along the proposed Alaska pipeline route. Temperatures were reported above freezing for a two-day period along the entire north slope. Barrow had a record high temperature of 36° on the 4th and Barter Island reported 39° the same day. Barrow also had 0.18 inch of rain on the 4th, equal to the average water equivalent for the entire month of January. Bettles, on the south side of the range, had 0.29 inch of rain and snow mixed from the same storm.

0

N.A.

Barter Island collected 0.04 inch of rain and Deadhorse, the closest official station to the Sagavanirktok River also reported rainfall, but did not report the amount. An all-terrain-vehicle operator hauling oil well drilling equipment on the river ice reported up to four feet of water flowing over the ice during the period. A second report, from the Superintendent of the pipeline construc-

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

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Basins
and
Streams

FLOOD EVENT

Lives
Lost

Preliminary Estimate
of Property Damage
(thousands of dollars)

PACIFIC SLOPE DRAINAGE-Con't

tion camp at Happy Valley, stated that 3 to 4 feet of water was covering the camp airstrip during the period also.

FLOOD STAGE DATA

(All dates in January unless otherwise specified)

JANUARY 1974

River and station	Flood stage	Above flood stages -dates		Crest	
		From--	To--	Stage	Date
ST. LAWRENCE DRAINAGE	Ft.			Ft.	
Portage Creek:					
Vicksburg, MI	5	22	31	5.40	31
Red Cedar River					
Williamston, MI	7	22	24	7.8	23
East Lansing, MI	7	23	24	7.23	23
Grand River:					
Comstock Park, MI	12	24	Feb 1	13.46	26
Clinton River:					
Mt. Clemens, MI	13	21	21	13.86	21
		27	27	14.50	27
Middle River Rouge:					
Garden City, MI	7	21	24	7.70	23
		26	28	7.51	26
Lower River Rouge:					
Inkster, MI	10	22	22	10.27	22
Huron River:					
Ann Arbor, MI	15	28	28	15.13	28
River Raisin:					
Monroe, MI (City)	8.5	3	4	9.20	3
		22	22	11.00	22
St. Marys:					
Decatur, IN	15	19	31	22.8	22
St. Josephs:					
Montpelier, OH	10	Dec 29	Feb 2	10.46	Dec 29
		22	3	13.24	24
Blanchard:					
Ottawa, OH	10.5	20	23	17.0	21
Maumee:					
Fort Wayne, IN	15	21	1/	21.01	23
Defiance, OH	10	21	26	13.2	22
Napoleon, OH	10	21	24	12.0	22
Grand Rapids, OH	15	21	25	16.80	22
Sandusky:					
Upper Sandusky, OH	13	20	20	13.78	20
Tiffin, OH	8	20	22	9.50	22
Fremont, OH	10	20	22	12.3	20
ATLANTIC SLOPE DRAINAGE					
Roanoke:					
Williamston, NC	10	Dec 21	26	#11.2	A 8
Neuse:					
Neuse, NC	14	29	29	#14.0	29
Smithfield, NC	13	29	Feb 2	16.5	31
Cape Fear:					
Huske Lock and Dam, NC	42	29	Feb 1	44.9	31
Elizabethtown, NC	20	30	Feb 2	#23.0	31
Lumber:					
Lumberton, NC	9	2	13	10.2	8
Pee Dee:					
Pee Dee, SC	19	3	10	20.9	7
		25	1/	21.3	Feb 13
Broad:					
Blair, SC	14	1	4	19.3	2
		22	22	15.8	22
Reedy:					
Greenville, SC	9	Dec 31	1	10.5	1
Saluda:					
Pelzer, SC	9	1	1	10.7	1
Savannah:					
Millhaven-Wade 2 SE, GA	15	20	Feb 5	15.4	22
Clyo, GA	11	8	1/	15.8	Feb 26
Ocmulgee:					
Macon, GA	18	2	3	19.7	3
		30	30	18.9	30
Oconee:					
Milledgeville, GA	20	31	31	20.1	31
EAST GULF OF MEXICO DRAINAGE					
Apalachicola:					
Blountstown, FL	15	3	11	#18.6	8
		12	13	#15.8	13
		24	25	#15.9	24
		28	1	#18.8	Feb 2
			1/	#19.7	Feb 11-13
Choctawhatchee:					
Newton, AL	19	3	3	#19.4	3
Caryville, FL	12	3	7	#13.5	5
Cahaba:					
Centreville, AL	23	Dec 31	1	27.8	1
EAST GULF OF MEXICO DRAINAGE Continued					
Cahaba-Continued					
Suttle, AL	32	3	4	#32.6	4
Alabama:					
Millers Ferry L and D, AL	66	4	5	67.7	5
Claiborne, AL	40	6	7	#40.5	6-7
Old Town Creek:					
Tupelo, MS	21	4	6	23.4	4
		11	13	25.3	11
		25	26	23.2	25
Tibbee Creek:					
Tibbee, MS	23	12	15	26.17	13
		25	30	26.19	27
Black Warrior:					
Bankhead Lock and Dam, AL	15	10	10	#15.1	10
Warrior Lock and Dam, AL	30	Dec 27	4	#38.0	Dec 30
		12	15	#32.1	14
		30	Feb 1	#31.2	31
Tombigbee:					
Fulton, MS	16	Dec 26	1	16.83	Dec 27
		4	7	16.56	5
		11	18	18.72	12
		22	Feb 6	17.43	25
Armory, MS	20	4	6	21.47	4
		10	17	27.11	13
		20	21	21.50	21
		24	Feb 7	27.66	26
Aberdeen, MS	34	Dec 27	1	35.10	29
		12	19	40.55	13
		25	Feb 2	39.56	26
Columbus, MS	29	16	18	29.83	16
		29	Feb 1	30.76	30
Gainesville, AL	36	Dec 27	Feb 10	44.2	1
				45.2	21
				45.6	Feb 3
Demopolis Lock and Dam, AL	48	Dec 27	Feb 12	#59.4	2
				#52.2	10
				#54.7	15-16
				#52.6	2
				55.1	Feb 28
Coffeeville L and D, AL	43	Dec 28	1/	#53.7	6-7
				#51.3	17
				#51.5	22
				#51.4	30
Tallahala Creek:					
Laurel, MS	13	Dec 26	Feb 10	21.20	Dec 27
		25	2	15.80	28
Leaf:					
Beaumont, MS	20	Dec 27	4	28.20	Dec 30
		26	Feb 2	21.98	27
Chickasawhay:					
Enterprise, MS	20	Dec 26	1	28.39	Dec 28
Shubuta, MS	30	Dec 27	3	36.58	Dec 30
Pascagoula:					
Merrill, MS	22	Dec 30	0	24.8	Dec 31
Yockanookany:					
Ofahoma, MS	14	Dec 26	2	17.10	Dec 30
		7	22	17.10	11
		24	Feb 3	17.50	25
Pearl:					
Edinburg, MS	20	Dec 27	Feb 4	A24.30	13
Carthage, MS	17	Dec 26	Feb 6	A23.0	12
Jackson, MS	18	Dec 25	1/	A33.56	31
Monticello, MS	19	Dec 25	1/	A27.92	30
Columbia, MS	17	Dec 27	Feb 15	A23.68	31
Bogalusa, LA	15	Dec 23	1/	20.5	29-31
Pearl River, LA	12	Dec 28	1/	16.8	27-31
Upper Mississippi Basin					
Maquoketa River:					
Maquoketa, IA	13	27	27	13.12	27
Wapsipinicon River:					
De Witt, IA	10	27	31	10.6	27
East Branch Pecatonica River:					
Blanchardville, WI	17	27	29	18.45	27
Pecatonica River:					
Darlington, WI	11	27	27	12.0	27
Martintown, WI	11	21	Feb 5	16.3	31
Freeport, IL	13	28	Feb 3	14.3	31
Shirland, IL	12	24	Feb 7	14.5	31
Kishwaukee River:					
Perryville, IL	10	22	Feb 12	13.53	27
Green River:					
Geneseo, IL	8	22	Feb 3	10.45	29

FLOOD STAGE DATA

(All dates in January unless otherwise specified)

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River and station	Flood stage	Above flood stages -dates		Crest		River and station	Flood stage	Above flood stages -dates		Crest	
		From--	To--	Stage	Date			From--	To--	Stage	Date
<u>Upper Mississippi Basin-Cont'd</u>						<u>Ohio Basin-Continued</u>					
Rock River:						West Fork-Con't:					
Joslin, IL	12	22	1/	16.8	29	Clarksburg, WV	7	11	12	9.67	11
Moline, IL	12	21	1/	14.1	24	Tygart:					
				13.9	31	Belington, WV	14	11	12	15.30	11
Iowa River:						Philippi, WV	17	11	12	19.06	11
Marshalltown, IA	13	31	31	13.68	31	Monongahela:					
Wapello, IA	10	30	31	13.8	31	Pt. Marion, PA (Lock 8)	26	11	12	27.0	11
South Skunk River:						Greensboro, PA	21	11	12	22.6	11
Oskaloosa, IA	15	20	24	18.60	21	Charleroi, PA	26	11	12	33.4	12
		26	27	16.41	27	Elizabeth, PA	20	11	12	22.4	12
North Skunk River:						Braddock, PA	19	11	12	23.3	12
Sigourney, IA	16	27	28	16.71	27	Little Kanawha:					
		29	1/	17.46	31	Glenville, WV	23	11	12	27.92	11
Skunk River:						Creston, WV	20	11	12	27.5	11
Brighton, IA	14	27	1/	15.70	30	Coal:					
Augusta, IA	15	27	28	16.6	27	Tornado, WV	25	11	12	26.9	11
Cedar Creek:						Guyandotte:					
Bussey, IA	16.5	21	21	17.71	21	Logan, WV	23	10	12	30.81	11
		26	28	19.81	27	Branchland, WV	30	11	13	44.31	12
Des Moines River:						Levisa Fork, Sandy:					
Eddyville, IA	15	20	29	17.46	22	Paintsville, KY	35	12	12	35.1	12
				19.16	27	Tug Fork Sandy:					
Salt River:						Williamson, WV	27	11	12	37.0	11
New London, MO	19	19	22	20.25	21	Kermit, WV	38	11	12	45.0	12
Illinois River:						Big Sandy:					
Morris, IL	13	22	31	16.66	27	Louisa, KY	45	12	13	47.84	13
La Salle, IL	20	22	Feb 9	26.20	28	Scioto:					
Peoria, IL	18	25	Feb 12	23.2	Feb 1	La Rue, OH	11	19	20	11.42	20
Havana, IL	14	23	1/	N		Prospect, OH	10	19	24	13.5	21
Beardstown, IL	14	22	1/	N		Circleville, OH	14	20	25	16.4	22
Meredosia, IL	32	23	1/	N		Piketon, OH	16	22	26	17.95	22
Meramec River:						South Fork Licking:					
Eureka, MO	18	22	24	18.4	23	Cynthiana, KY	20	11	11	20.49	11
Valley Park, MO	16	22	25	17.05	23	Licking:					
Big Muddy River:						Falmouth, KY	28	11	13	31.4	12
Murphysboro, IL	16	20	Feb 8	24.38	25	North Fork Kentucky:					
Mississippi River:						Hazard, KY	20	11	12	23.85	11
Keokuk, IA (Dam 19 TW)	16	30	30	16.05	30	Jackson, KY	29	10	13	36.35	11
Hannibal, MO	16	29	Feb 1	#17.2	31	Red:					
Louisiana, MO	15	29	Feb 1	#15.84	31	Clay City, KY	19	11	12	20.5	11
Clarksville, MO (Dam 24 TW)	25	29	Feb 1	#25.9	31	Kentucky:					
Winfield, MO (Dam 25 TW)	26	31	Feb 1	#26.2	Feb 1	Beattyville, KY	25	10	13	33.03	11
Grafton, IL	18	29	Feb 4	#20.7	Feb 1	Lock 10, KY (Upper)	25	11	15	30.2	13
Alton, IL (Dam 26 TW)	21	28	Feb 3	#23.2	30	Lock 4, KY	31	11	16	34.4	13
Chester, IL	27	29	Feb 4	#28.94	31	Brashear's Creek:					
Cape Girardeau, MO	32	24	Feb 6	#34.95	31, Feb 1	Taylorsville, KY	20	11	11	26.2	11
Thebes, IL	33	26	Feb 5	#35.35	31	Rolling Fork:					
<u>Missouri Basin</u>						Boston, KY	40	11	14	46.7	13
One Hundred and Two River:						Barren:					
Rosendale, MO	13	21	23	17.7	21	Bowling Green, KY	28	11	12	#33.85	12
Platte River:						Green:					
Agency, MO	20	21	25	23.2	23	Munfordville, KY	28	11	14	#43.5	12
Kansas River:						Brownsville, KY	18	11	15	#31.5	13
Lecompton, KS	17	21	23	20.74	21	Rochester, KY	39	13	19	#40.66	16
Grand River:						Woodbury, KY	33	10	20	45.50	13
Chillicothe, MO	24	20	23	27.3	21	Livermore, KY	20	11	Feb 2	#26.10	18
		27	28	25.6	27	Calhoun, KY	23	11	Feb 4	#29.7	20
Sumner, MO	26	20	25	33.70	21	Eagle Creek:					
Brunswick	12	22	30	13.80	24	Zionsville, ID	7	18	19	9.18	19
Lamine River:						Vermilion:					
Clifton City, MO	19	17	18	22.74	18	Danville, IL	18	21	23	20.8	22
Blackwater River:						Embarrass:					
Valley City, MO	22	18	20	25.77	20	Ste. Marie, IL	18	Dec 27	Feb 1	20.91	Dec 28
Blue Lick, MO	25	20	26	28.63	23					20.43	23
Marais Des Cygnes River:						Lawrenceville, IL	11	Dec 26	Feb 5	18.85	Dec 31
Lacygne, KS	25	20	20	#25.10	20			18	Feb 6	18.51	25
South Grand River:						East Fork White:					
Rulo, NE	17	17	25	22.09	22	Seymour, ID	14	20	24	15.46	21
St. Joseph, MO	17	20	25	21.15	24	White:					
Atchison, KS	22	25	25	24.0	25	Anderson, ID	10	19	20	10.78	19
Lexington, MO	22	26	26	22.0	26	Noblesville, ID	14	20	21	14.9	20
Hermann, MO	21	23	Feb 1	26.3	28	Nora, ID	11	20	22	13.32	21
St. Charles, MO	25	27	Feb 1	28.0	29	Ravenswood, ID	6	20	22	7.3	21
<u>Ohio Basin</u>						Centerton, ID	602	21	23	604.7	22
West Fork						Spencer, ID	14	Dec 26	Feb 1	18.74	Dec 30
Weston, WV	17	11	11	18.55	11			20	Feb 1	19.32	23

FLOOD STAGE DATA

(All dates in January unless otherwise specified)

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River and station	Flood stage	Above flood stages -dates		Crest	
		From-	To-	Stage	Date
<u>Ohio Basin-Continued</u>	<u>Ft.</u>			<u>Ft.</u>	
White-Con't:					
Elliston, IN	18	Dec 26	Feb 3	24.05	Dec 31
		20	Feb 3	24.10	24
Edwardsport, IN	15	Dec 27	Feb 4	21.0	Dec 31
		20	Feb 5	21.1	27
Petersburg, IN	16	Dec 29	Feb 5	19.61	3
		21	Feb 6	22.02	27
Hazleton, IN	16	Dec 22	Feb 7	23.1	28
Skillet Fork:					
Wayne City, IL	15	22	24	#17.99	23
Little Wabash					
Wilcox, IL	16	Dec 25	Feb 2	#22.33	Dec 28
		19	Feb 2	#21.75	23
Carmi, IL	27	Dec 29	Feb 16	#30.57	3
		23	Feb 6	#29.72	31
Wabash					
Bluffton, IN	10	20	24	15.2	21
Wabash, IN	12	21	24	14.40	21
		26	28	13.49	27
Lafayette, IN	11	Dec 26	Feb 1	17.84	Dec 28
		20	Feb 10	20.58	22
Covington, IN	16	Dec 27	Feb 2	21.65	Dec 30
		20	Feb 8	25.02	23
Montezuma, IN	14	Dec 26	Feb 4	21.08	Dec 28
		19	Feb 13	27.55	24
Clinton, IN	18	Dec 18	Feb 11	27.00	24
Terre Haute, IN	14	Dec 26	Feb 4	19.2	Dec 29
		19	Feb 12	22.8	25
Hutsonville, IL	20	Dec 29	Feb 5	21.8	2
		22	Feb 8	25.5	27
Riverton, IN	18	Dec 30	Feb 8	19.27	4
		22	Feb 8	22.10	28
Vincennes, IN	16	Dec 29	Feb 8	19.87	3
		22	Feb 10	24.06	29
Mt. Carmel, IL	17	Dec 30	Feb 7	21.0	4
		22	Feb 9	25.56	30
New Harmony, IN	15	1	9	#16.4	5
		24	Feb 9	#19.1	31
Poor Fork					
Cumberland, KY	12	11	11	12.1	11
Harpeth:					
Kingston Springs, TN	15	10	12	25.3	11
Red:					
Port Royal, TN	30	10	13	39.4	11
Cumberland:					
Baxter Harlan W.W.O., KY	16	11	11	21.7	11
Pineville, KY	1002	11	12	1003.7	11
Barbourville, KY	27	11	14	38.5	12
Williamsburg, KY	21	11	15	27.5	12
Nashville, TN	40	10	13	42.2	11
Clarksville, TN	46	10	16	52.8	12
Emory River:					
Oakdale, TN	25	11	11	26.12	11
South Chickamauga Creek:					
Chickamauga, TN	10	1	2	11.34	1
		3	5	12.53	3
		9	12	11.50	11
Elk:					
Fayetteville, TN	661	10	12	665.57	11
Duck:					
Shelbyville, TN	722	10	12	730.5	11
Columbia, TN	32	11	14	42.95	12
Tennessee:					
Whitesburg, AL	560	Dec 26	Feb 13	568.76	Dec 28
				568.64	13
Florence, AL	419	Dec 27	20	426.26	11
Savannah, TN	380	10	21	389.00	14
		29	31	381.32	30
Gilbertville, KY	320	Dec 27	Feb 14	337.92	16
Ohio:					
Racine, WV	38	12	13	39.5	13
Point Pleasant, WV	40	12	14	42.13	13
Huntington, WV	50	13	13	50.1	13
Ashland, KY	52	1	13	54.14	13
Greenup Dam, KY	54	1	1	55.00	13
Portsmouth, OH	50	13	14	51.56	13
Maysville, KY	50	13	15	#51.67	14
Meldahl Dam, OH (Lower)	51	14	15	51.5	14
McAlpine Dam, KY	23	14	17	26.15	16
Louisville, KY	55	15	17	57.7	16
Cannelton Dam, IN	42	15	19	45.7	17

River and station	Flood stage	Above flood stages -dates		Crest	
		From-	To-	Stage	Date
<u>Ohio Basin-Continued</u>	<u>Ft.</u>			<u>Ft.</u>	
Ohio-Con't:					
Tell City, IN	38	13	20	#44.3	17
Owensboro, KY (Dam 46)	41	15	19	#43.1	17
Newburgh, IN (Dam 47)	38	12	Feb 3	#45.8	18
Evansville, IN	42	16	19	42.66	18
Cypress, IN (Dam 48)	38	13	Feb 3	44.8	18
Mt. Vernon, IN	35	2	10	#36.1	4
		13	Feb 5	#42.5	19
Dam 49, KY	37	3	10	#38.0	6
		14	Feb 6	#44.1	20
Shawsneetown, IL	33	1	Feb 9	44.5	20
Dam 50, KY	34	Dec 31	Feb 10	#48.0	21
				#44.6	Feb 3
Cairo, IL	40	Dec 28	Feb 15	52.19	Feb 1
<u>White Basin</u>					
Cache:					
Patterson, AR	7	Nov 26	1	A 9.4	12
Black:					
Pocahontas, AR	17	Dec 29	3	17.82	Dec 31
Black Rock, AR	14	Nov 24	15	25.9	Dec 5
		21	Feb 9	18.4	27
White:					
Georgetown, AR	21	29	Feb 8	21.4	31
Clarendon, AR	26	Dec 1	1/	A27.7	15
St. Charles, AR	25	Dec 5	1/	27.5	Feb 9
<u>Arkansas Basin</u>					
Neosho:					
Oswego, KS	17	20	20	17.25	20
Fourche La Pave:					
Houston, AR	25	11	12	26.0	11
<u>Red Basin</u>					
Sulphur:					
Hagansport, TX	44	10	13	47.05	11
		19	22	47.20	19
Naples, TX	22	1	2	24.53	1
		14	Feb 6	27.43	15
Ouachita:					
Camden, AR	26	12	20	32.9	15
		23	23	26.2	23
		30	1/	26.9	Feb 1
Monroe, LA	40	13	1	45.2	30-31
Columbia Lock and Dam, LA	65	25	1	67.0	Feb 2-3
Black:					
Jonesville L and D, LA	52	24	1	53.6	Feb 6-8
Acme, LA	48	26	Feb 28	50.1	Feb 4-8
<u>Lower Mississippi Basin</u>					
St. Francis:					
Fisk, MO	20	Dec 9	6	24.87	Dec 16
		24	29	21.26	25
St. Francis, AR	18	Dec 4	14	21.69	Dec 27
		16	16	18.13	16
		24	Feb 3	19.87	29
Tallahatchie:					
Swan Lake, MS	26	Dec 27	1	30.25	15
Yazoo:					
Greenwood, MS	35	24	1	36.28	29
Yazoo City, MS	29	Dec 25	1/	A34.36	Feb 16
Big Black:					
West, MS	12	Dec 25	1	20.70	29
Bovina, MS	28	Dec 26	Feb 14	38.55	11
Mississippi:					
New Madrid, MO	34	12	Feb 14	40.5	Feb 1
Caruthersville, MO	32	10	Feb 15	39.3	Feb 2-5
Memphis, TN	34	26	Feb 13	36.4	Feb 6
Vicksburg, MS	43	28	Feb 21	45.4	Feb 10
Natchez, MS	48	28	Feb 24	50.9	Feb 10
Red River Landing, LA	45	18	1/	50.2	Feb 17
Baton Rouge, LA	35	23	Feb 27	39.0	Feb 15
Donaldsonville, LA	28	26	Feb 26	30.7	Feb 16
<u>Atchafalaya Basin</u>					
Atchafalaya:					
Morgan City, LA	7	Dec 13	1	A 9.3	Feb 19
WEST GULF OF MEXICO DRAINAGE					
Mermentau:					
Mermentau, LA	5	5	9	5.6	7
		20	Feb 11	7.7	28

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(All dates in January unless otherwise specified)

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River and station	Flood stage	Above flood stages -dates		Crest	
		From--	To--	Stage	Date
WEST GULF OF MEXICO DRAINAGE Continued	<i>Fl</i>			<i>Fl</i>	
West Fork Calcasieu:					
San Houston Park, LA	3	21	22	5.5	21
		27	28	5.3	28
Calcasieu:					
Hineston, LA	12	Dec 21	1	15.4	Dec 27
		4	18	15.7	7
		19	Feb 4	16.8	22
Oxedale, LA	12	23	24	12.9	23
		29	30	12.7	29
Kinder, LA	16	13	15	16.8	14
		21	Feb 4	18.8	22
Lake Charles, LA	6	8	9	3.1	8
		20	30	4.1	28
Lake Fork:					
Quitman, TX (near)	16	22	22	16.03	22
Sabine:					
Emory, TX	12	10	30	14.32	11
				13.87	20
Mineola, TX	14	13	Feb 5	17.39	22
Gladewater, TX	26	19	Feb 6	31.81	29
Longview, TX	25	21	Feb 9	29.24	30
Logansport, TX	28	24	Feb 4	31.35	28
Bon Weir, TX	17	U	1	23.57	30
Deweyville, TX	14	Dec 7	Feb 28	17.72	Feb 1
Attoyac Bayou:					
Chireno, TX (near)	14	7	Feb 5	20.65	25
Angelina:					
Lufkin, TX (near)	8	U	B	1	13.36
Neches					
Alto, TX (near)	16	4	5	16.07	5
		24	Feb 10	18.60	29
Diboll, TX (near)	10	Oct 13	1	15.43	27
Rockland, TX (near)	22	21	22	22.38	21
		27	Feb 2	24.94	29
Weiss Bluff, TX	15	19	Feb 7	16.9	22
Lawsons Crossing, TX	4	18	Feb 10	8.4	23
East Fork Trinity:					
Crandall, TX	13	27	30	13.58	27
Trinity:					
Trinidad, TX	28	13	15	31.65	14
Goodrich, TX	36	24	30	39.28	28
Liberty, TX	24	20	Feb 6	28.5	30-31
Moss Bluff, TX	4	Dec 22	14	6.75	Dec 31
		16	Feb 11	8.45	31-Feb 1
Navasota					
Easterly, TX (near)	14	U	31	15.8	27
Bryan, TX (near)	12	20	Feb 4	13.95	27
Guadalupe					
Victoria, TX	21	27	31	22.59	29
Dupont, TX	20	14	17	21.6	15-16
		19	Feb 5	25.3	30
PACIFIC SLOPE DRAINAGE					
Cache Creek:					
Rumsey, CA	14	16	16	14.4	16
Sacramento:					
Bend Bridge, CA	38	16	17	43.5	17
Red Bluff, CA	23	16	17	U	17
Tehama, CA	213	15	U	220.0	16-17
Vina Woodson Bridge, CA	183	15	U	190.3	16
Russian:					
Hopland, CA	21	16	16	25.3	16
Healdsburg, CA	19	16	17	24.5	16
Summer Home, CA	32	16	18	43.5	17
Guernville B, CA	32	16	18	40.7	17
Van Duzen:					
Bridgeville, CA	17	15	16	20.34	16
South Fork Eel:					
Miranda, CA	33	16	16	34.52	16
Eel:					
Scotia, CA	51	16	16	52.31	16
Fernbridge, CA	20	15	17	26.33	16
Klamath:					
Klamath Glen, CA	40	16	17	41.96	16
Applegate:					
Applegate, OR	13	15	17	20.41	15
Roque:					
Eagle Point, OR	10	15	16	11.64	15
Raygold, OR	12	15	17	15.06	16

River and station	Flood stage	Above flood stages -dates		Crest	
		From--	To--	Stage	Date
PACIFIC SLOPE DRAINAGE-Continued	<i>Fl</i>			<i>Fl</i>	
Roque-Con't:					
Grants Pass, OR	19	15	17	25.88	16
South Fork Coquille:					
Myrtle Point, OR	35	14	18	43.84	15
Coquille:					
Coquille, OR	21	15	19	23.9	16
Cow Creek:					
Riddle, OR	18	15	17	27.89	15
South Umpqua:					
Tiller, OR	15	15	17	18.34	15
Winston, OR	26	15	17	32.64	16
Roseburg, OR	22	15	17	30.50	16
Umpqua:					
Elkton, OR	33	U	U	44.20	16
Siuslaw:					
Mapleton, OR	18	14	18	28.06	16
Alsea					
Tidewater, OR	18	14	18	24.54	16
Siletz:					
Siletz, OR	16	16	17	19.12	16
Wilson:					
Tillamook, OR	11	14	17	E15.75	16
Nehalem:					
Foss, OR	13	14	19	20.98	16
Columbia Basin					
St. Joe:					
St. Maries, ID	38	16	19	41.4	16
Coeur D'Alene:					
Enaville, ID	72	16	19	81.3	16
Cataldo, ID	43	16	19	49.9	16
Coeur D'Alene Lake:					
Coeur D'Alene, ID	35	19	23	36.54	20
Hangman Creek:					
Spokane, WA	11	15	16	12.8	15
Spokane:					
Spokane, WA	27	18	27	28.9	20
Yakima:					
Parker, WA	10	15	18	E13.6	16
Kiona, WA	20,000 c.f.s.	16	21	39,300 c.f.s.	17
Weuser:					
Cambridge, ID	9	16	17	8.55	17
Weiser, ID	8	5	19	#10.4	12
Snake:					
Weiser, ID	12	13	15	#14.3	14
Klickitat:					
Pitt, WA	16	U	U	17.12	16
Marys:					
Philomath, OR	20	15	17	20.9	15
Santiam:					
Jefferson, OR	15	15	17	19.5	16
Luckiamute:					
Suver, OR	27	15	18	30.6	17
S. Yamhill:					
Whiteson, OR	38	15	20	45.04	16
Molalla:					
Canby, OR	13	15	16	14.4	15
Pudding:					
Aurora, OR	20	15	25	28.3	16
Tualatin:					
Oswego, OR	20	17	22	25.63	18
Farmington, OR	29	15	24	35.14	17
West Linn, OR	12	17	22	16.31	18
Clackamas:					
Clackamas, OR	13	15	16	17.6	15
Johnson Creek:					
Sycamore, OR	8	15	16	12.72	15
Willamette:					
Harrisburg, OR	12	16	16	12.7	16
Corvallis, OR	20	16	17	22.1	17
Albany, OR	25	16	18	28.59	17
Salem, OR	28	16	18	32.2	17
Oregon City UPRO, OR	14	16	20	17.1	18
Oregon City LWRO, OR	27	15	22	38.3	18

FLOOD STAGE DATA

(All dates in January unless otherwise specified.)

JANUARY 1971

River and station	Flood stage	Above flood stages -dates		Crest		River and station	Flood stage	Above flood stages -dates		Crest	
		From-	To-	Stage	Date			From-	To-	Stage	Date
<u>Columbia Basin-Continued</u>	<i>Fl.</i>			<i>Fl.</i>		<u>Columbia Basin-Continued</u>	<i>Fl.</i>			<i>Fl.</i>	
Willamette-Con't						Snoqualmie:					
Portland, OR	18	16	22	24.1	18	Carnation, WA	54	15	17	56.7	16
Columbia:						Snohomish:					
Vancouver, WA	16	15	25	23.2	18	Snohomish, WA	25	15	18	30.40	16
Columbia City, OR	17	16	21	19.6	19					30.38	17
Chehalis:						Skagit:					
Centralia, WA	63	15	19	69.1	16	Concrete, WA	29	16	17	30.75	16
Skykomish:						Mount Vernon, WA	28	16	17	29.64	16
Goldbar, WA	15	15	16	15.56	15						

A See previous report for Additional crest information.

N Did not crest during current month.

B Above flood stage entire month.

Average monthly values

JANUAR: 1974

ALBANY, N. Y. 1011 MB											ALBUQUERQUE, N. MEX. 837 MB											AMARILLO, TEXAS 891 MB											ANCHORAGE, ALASKA 1010 MB											ANNETTE, ALASKA 1007 MB																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
Standard pressure surface (mb)		No of observations		Dynamic height		Temperature		Dew Point		Direction		Speed		Wind		No of observations		Dynamic height		Temperature		Dew Point		Direction		Speed		Wind		No of observations		Dynamic height		Temperature		Dew Point		Direction		Speed		Wind																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
S. P. 4000	31	86	-6.3	-8.9	26	1.619	-3.3	-6.5	01	1.8	31	1.095	-3.4	-6.8	30	2.2	31	1.475	-12.5	-17.4	01	1.7	31	37	-2.5	-6.0	04	1.4	1000	31	173	-5.3	-9.2	23	1.3	31	1.095	-3.4	-6.8	30	2.2	31	1.475	-12.5	-17.4	01	1.7	31	37	-2.5	-6.0	04	1.4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
950	31	173	-5.3	-9.2	23	1.3	31	1.095	-3.4	-6.8	30	2.2	31	1.475	-12.5	-17.4	01	1.7	31	37	-2.5	-6.0	04	1.4	1000	31	173	-5.3	-9.2	23	1.3	31	1.095	-3.4	-6.8	30	2.2	31	1.475	-12.5	-17.4	01	1.7	31	37	-2.5	-6.0	04	1.4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
900	31	992	-5.0	-9.2	22	1.3	31	1.095	-3.4	-6.8	30	2.2	31	1.475	-12.5	-17.4	01	1.7	31	37	-2.5	-6.0	04	1.4	1000	31	173	-5.3	-9.2	23	1.3	31	1.095	-3.4	-6.8	30	2.2	31	1.475	-12.5	-17.4	01	1.7	31	37	-2.5	-6.0	04	1.4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
850	31	1444	-5.0	-10.7	17	12.6	1.3	31	1.095	-3.4	-6.8	30	2.2	31	1.475	-12.5	-17.4	01	1.7	31	37	-2.5	-6.0	04	1.4	1000	31	173	-5.3	-9.2	23	1.3	31	1.095	-3.4	-6.8	30	2.2	31	1.475	-12.5	-17.4	01	1.7	31	37	-2.5	-6.0	04	1.4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
800	31	14919	-6.1	-12.6	27	17.4	31	1.095	-3.4	-6.8	30	2.2	31	1.475	-12.5	-17.4	01	1.7	31	37	-2.5	-6.0	04	1.4	1000	31	173	-5.3	-9.2	23	1.3	31	1.095	-3.4	-6.8	30	2.2	31	1.475	-12.5	-17.4	01	1.7	31	37	-2.5	-6.0	04	1.4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
750	31	2423	-7.1	-15.6	26	20.5	31	2496	-2.8	-12.0	23	3.0	31	2.681	1.3	-12.5	27	6.8	31	2.352	-12.0	-24.7	27	1.1	31	2.363	-11.3	-19.1	27	2.3	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3.5	31	2.870	-14.1	-22.7	28	3

RAWINSONDE DATA

Average monthly values

JANUARY 1974

CARIBOU, MAINE 993 MB										CHARLESTON, S. C. 1020 MB										CHATHAM, MASS. 1018 MB										CHIHUAHUA, MEXICO 858 MB										COLD BAY, ALASKA 1007 MB									
Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed M.P.H.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed M.P.H.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed M.P.H.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed M.P.H.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed M.P.H.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed M.P.H.													
SURFACE	31	191	-16.5	-20.1	29	1.9	31	13	13.6	11.4	27	2.8	31	16	5	-2.3	26	1.6	31	1428	5.1	-3.5	23	1.9	28	30	-2.1	-3.8	10	3.4	28	30	-2.1	-3.8	10	3.4													
1000	9	220	-20.9	-24.2			31	18	17.7	14.9	27	2.8	31	158		-4.2	27	2.8	31	158		-4.2	27	2.8	27	119	-1.7	-3.5	11	5.2	27	119	-1.7	-3.5	11	5.2													
950	31	925	-14.0	-16.9	28	5.5	31	613	15.2	9.8	24	6.9	31	509	-1.3	-5.5	27	5.8	31	509	-1.3	-5.5	27	5.8	26	488	-1.1	-6.8	11	5.6	26	488	-1.1	-6.8	11	5.6													
900	31	936	-14.4	-17.8	28	8.5	31	1070	13.2	7.1	24	9.2	31	999	-2.4	-7.7	26	8.5	31	999	-2.4	-7.7	26	8.5	28	914	-5.3	-9.2	11	4.4	28	914	-5.3	-9.2	11	4.4													
850	31	1369	-14.6	-18.5	24	11.1	31	1550	10.7	2.9	25	11.1	31	1453	-2.8	-11.0	27	13.3	31	1500	8.6	-2.8	23	2.3	28	1363	-5.7	-13.3	13	4.6	28	1363	-5.7	-13.3	13	4.6													
800	31	1828	-15.6	-21.0	28	13.7	31	2053	8.3	-1.2	25	11.5	31	1934	-3.1	-13.1	27	17.4	31	2004	9.1	-3.3	24	5.0	28	1838	-6.0	-15.6	14	4.3	28	1838	-6.0	-15.6	14	4.3													
750	31	2314	-16.7	-23.0	28	16.2	31	2565	5.9	-6.9	25	11.2	31	2444	-3.1	-14.8	27	20.8	31	2536	6.4	-6.7	25	8.7	28	2342	-7.7	-17.9	17	3.6	28	2342	-7.7	-17.9	17	3.6													
700	31	2831	-17.8	-25.6	27	20.1	31	3146	2.6	-9.9	25	12.6	31	2986	-6.2	-17.1	27	24.1	31	3099	3.8	-11.1	25	12.5	28	2877	-10.3	-20.5	15	3.4	28	2877	-10.3	-20.5	15	3.4													
650	31	3384	-19.4	-27.7	27	23.4	31	3743	-1.1	-16.2	26	14.3	31	3563	-9.0	-19.0	27	27.3	31	3698	4.6	-15.7	25	13.6	28	3444	-13.3	-23.4	20	4.4	28	3444	-13.3	-23.4	20	4.4													
600	31	3977	-21.8	-30.3	27	27.6	31	4379	-3.6	-20.3	26	16.0	31	4179	-12.2	-20.9	27	31.2	31	4336	-3.1	-20.0	25	13.6	28	4050	-16.2	-26.0	27	5.5	28	4050	-16.2	-26.0	27	5.5													
550	31	4614	-24.6	-32.7	27	31.7	31	5061	-7.9	-23.8	26	17.5	31	4840	-15.9	-23.4	27	33.7	31	5018	-7.9	-23.9	25	14.4	28	4700	-20.3	-28.9	23	6.9	28	4700	-20.3	-28.9	23	6.9													
500	31	5303	-28.7	-36.0	27	35.4	31	5796	-12.8	-28.4	26	18.9	31	5552	-20.6	-30.0	27	36.2	31	5752	-13.2	-28.9	25	15.3	28	5400	-25.3	-32.9	23	7.8	28	5400	-25.3	-32.9	23	7.8													
450	30	6042	-33.5	-39.3	27	38.6	31	6590	-18.7	-33.6	26	20.1	31	6324	-23.6	-34.2	27	40.4	31	6545	-19.0	-33.3	25	17.3	28	6157	-30.2	-35.3	23	10.0	28	6157	-30.2	-35.3	23	10.0													
400	29	6855	-39.1	-42.8	27	44.0	30	7456	-25.3	-39.0	26	20.9	30	7166	-31.3	-39.1	27	43.8	31	7411	-25.7	-39.1	25	17.9	27	7004	-35.6	-40.2	23	12.1	27	7004	-35.6	-40.2	23	12.1													
350	28	7755	-45.1		27	47.6	30	8414	-32.8	-44.4	26	22.7	30	8102	-38.0	-44.7	27	47.1	31	8307	-33.3	-43.5	25	18.3	27	7922	-40.2	-43.3	23	13.9	27	7922	-40.2	-43.3	23	13.9													
300	27	8781	-50.9		27	50.5	30	9477	-41.8	-50.1	26	24.4	30	9142	-46.1		27	50.3	31	9428	-41.8	-50.6	25	20.2	27	8946	-49.2		24	13.7	27	8946	-49.2		24	13.7													
250	27	9955	-55.5		27	50.9	30	10687	-51.4		26	26.8	30	10332	-54.5		27	50.8	31	10638	-51.4		26	24.0	27	10121	-55.0		24	11.7	27	10121	-55.0		24	11.7													
200	27	11370	-57.4		27	48.4	30	12107	-59.6		27	31.4	30	11736	-61.5		28	52.7	30	12055	-59.0		25	23.8	27	11542	-55.3		24	12.8	27	11542	-55.3		24	12.8													
175	26	12222	-56.6		27	46.3	30	12941	-60.3		27	31.7	30	12563	-61.1		28	54.5	30	12900	-60.9		25	26.5	25	12398	-53.5		24	12.6	25	12398	-53.5		24	12.6													
150	25	13206	-56.7		27	44.6	30	13898	-60.2		26	34.1	30	13524	-60.5		28	40.6	30	13843	-62.4		25	23.5	25	13394	-51.7		24	12.6	25	13394	-51.7		24	12.6													
125	24	14359	-57.8		27	41.1	30	15013	-66.5		26	31.5	29	14649	-61.9		28	44.1	30	14962	-65.5		25	21.1	24	14590	-52.6		23	9.7	24	14590	-52.6		23	9.7													
100	25	15763	-59.1		27	38.1	30	16348	-70.7		26	27.8	29	16018	-63.3		27	38.1	30	16309	-68.6		25	16.5	24	16030	-52.6		23	10.2	24	16030	-52.6		23	10.2													
80	23	17169	-59.8		27	35.0	29	17669	-72.1		26	20.7	27	17386	-64.1		27	37.4	30	17640	-69.9		25	14.6	21	17468	-51.8		20	8.5	21	17468	-51.8		20	8.5													
60	23	18002	-60.7		27	33.4	28	18457	-70.9		27	16.0	25	18217	-63.3		27	29.1	30	18436	-69.4		25	12.4	21	18334	-52.1		20	8.3	21	18334	-52.1		20	8.3													
40	22	18969	-61.2		27	31.1	28	19368	-82.2		27	8.6	24	19170	-68.2		28	49.7	30	19360	-69.9		25	9.4	20	19327	-49.6		20	7.5	20	19327	-49.6		20	7.5													
20	20	20104	-60.8		27	31.0	25	20484	-69.5		27	8.8	23	20295	-60.9		27	24.2	29	20471	-63.3		27	4.3	16	20487	-51.3		20	7.8	16	20487	-51.3		20	7.8													
10	17	21538	-60.2		27	27.4	24	22369	-85.4		28	10.1	22	21689	-59.5		27	22.7	28	21857	-59.6		27	3.0	15	21896	-51.1		20	8.4	15	21896	-51.1		20	8.4													
	30	23311	-61.4		27	21.4	22	23657	-93.9		27	11.3	20	23491	-57.4		27	27.0	26	23672	-56.1		27	4.2	15	23809	-50.4		20	10.7	15	23809	-50.4		20	10.7													
	25	24457	-61.4		27	21.4	21	24857	-93.9		27	10.7	19	24653	-55.7		26	28.2	25	24835	-54.6		27	5.8	14	25019	-49.5		20	11.4	14	25019	-49.5		20	11.4													
	20	25841	-63.0		27	21.4	20	26297	-91.6		26	10.5	18	26092	-52.7		26	34.9	24	26269	-53.0		27	5.9	13	26505	-47.8		20	11.2	13	26505	-47.8		20	11.2													
	15	27058	-57.5		27	21.4	15	27581	-91.6		26	11.5	16	27606	-46.5		25	33.0	19	27812	-45.4		26	6.5	6	31146	-46.0		20	14.7	6	31146	-46.0		20	14.7													
	10				27	21.4	11	30903	-42.9		26																																						

DAYTON, OHIO 984 MB										DEL RIO, TEXAS 981 MB										DENVER, COLO. 834 MB										DODGE CITY, KANS. 925 MB										EL PASO, TEXAS 882 MB									
Standard pressure surface (mb)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed M.P.H.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed M.P.H.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed M.P.H.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed M.P.H.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed M.P.H.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Speed M.P.H.													
SURFACE	31	299	-1.4	-3.4	26	1.3	30	314	7.4	3.3	07	1.3	31	1611	-7.7	-13.4	20	2.4	31	1791	-6.9	-10.6	32	2.1	31	1193	2.0	-6.7	30	1.0																			
1000	9						30					1.3	30						1.3	30																													
950	31	577	-1.0	-3.7	25	4.4	30	577	8.7	3.6	14	1.3	30	1943	-2.2	-13.9	24	3.9	31	1950	-3	-12.3	28	4.3	31	1994	4.8	-7.9	27	6.1																			
900	31	1010	-1	-6.9	26	8.1																																											

DAYTON, OHIO 984 MB										DEL RIO, TEXAS 981 MB										DENVER, COLO. 834 MB										DODGE CITY, KANS. 925 MB	
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RAWINSONDE DATA

Average monthly values

JANUARY 1974

GRAND JUNCTION, COLO. 854 MB													GREAT FALLS, MONT. 884 MB													GREEN BAY, WIS. 992 MB													GREENSBORO, N. C. 988 MB													GUADALUPE IS., MEXICO 1016 MB												
Standard pressure surface (mb)													Standard pressure surface (mb)													Standard pressure surface (mb)													Standard pressure surface (mb)													Standard pressure surface (mb)												
No. of observations													No. of observations													No. of observations													No. of observations													No. of observations												
Dynamic height													Dynamic height													Dynamic height													Dynamic height													Dynamic height												
Temperature													Temperature													Temperature													Temperature													Temperature												
Dew Point													Dew Point													Dew Point													Dew Point													Dew Point												
Direction													Direction													Direction													Direction													Direction												
Speed M.P.H.													Speed M.P.H.													Speed M.P.H.													Speed M.P.H.													Speed M.P.H.												
Resultant Wind													Resultant Wind													Resultant Wind													Resultant Wind													Resultant Wind												
SURFACE													SURFACE													SURFACE													SURFACE													SURFACE												
1	1472	-10.3	-12.9	13	6	31	1118	-8.6	-13.8	23	5.0	31	210	-9.2	-12.0	26	2.0	31	275	5.4	3.9	21	4	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9																	
1000	1472	-10.3	-12.9	13	6	31	1118	-8.6	-13.8	23	5.0	31	210	-9.2	-12.0	26	2.0	31	275	5.4	3.9	21	4	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9																	
950	1472	-10.3	-12.9	13	6	31	1118	-8.6	-13.8	23	5.0	31	210	-9.2	-12.0	26	2.0	31	275	5.4	3.9	21	4	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9																	
900	1472	-10.3	-12.9	13	6	31	1118	-8.6	-13.8	23	5.0	31	210	-9.2	-12.0	26	2.0	31	275	5.4	3.9	21	4	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9																	
850	1472	-10.3	-12.9	13	6	31	1118	-8.6	-13.8	23	5.0	31	210	-9.2	-12.0	26	2.0	31	275	5.4	3.9	21	4	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9																	
800	1472	-10.3	-12.9	13	6	31	1118	-8.6	-13.8	23	5.0	31	210	-9.2	-12.0	26	2.0	31	275	5.4	3.9	21	4	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9																	
750	1472	-10.3	-12.9	13	6	31	1118	-8.6	-13.8	23	5.0	31	210	-9.2	-12.0	26	2.0	31	275	5.4	3.9	21	4	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9																	
700	1472	-10.3	-12.9	13	6	31	1118	-8.6	-13.8	23	5.0	31	210	-9.2	-12.0	26	2.0	31	275	5.4	3.9	21	4	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9																	
650	1472	-10.3	-12.9	13	6	31	1118	-8.6	-13.8	23	5.0	31	210	-9.2	-12.0	26	2.0	31	275	5.4	3.9	21	4	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9																	
600	1472	-10.3	-12.9	13	6	31	1118	-8.6	-13.8	23	5.0	31	210	-9.2	-12.0	26	2.0	31	275	5.4	3.9	21	4	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9																	
550	1472	-10.3	-12.9	13	6	31	1118	-8.6	-13.8	23	5.0	31	210	-9.2	-12.0	26	2.0	31	275	5.4	3.9	21	4	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9																	
500	1472	-10.3	-12.9	13	6	31	1118	-8.6	-13.8	23	5.0	31	210	-9.2	-12.0	26	2.0	31	275	5.4	3.9	21	4	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9																	
450	1472	-10.3	-12.9	13	6	31	1118	-8.6	-13.8	23	5.0	31	210	-9.2	-12.0	26	2.0	31	275	5.4	3.9	21	4	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9																	
400	1472	-10.3	-12.9	13	6	31	1118	-8.6	-13.8	23	5.0	31	210	-9.2	-12.0	26	2.0	31	275	5.4	3.9	21	4	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9																	
350	1472	-10.3	-12.9	13	6	31	1118	-8.6	-13.8	23	5.0	31	210	-9.2	-12.0	26	2.0	31	275	5.4	3.9	21	4	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9																	
300	1472	-10.3	-12.9	13	6	31	1118	-8.6	-13.8	23	5.0	31	210	-9.2	-12.0	26	2.0	31	275	5.4	3.9	21	4	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9																	
250	1472	-10.3	-12.9	13	6	31	1118	-8.6	-13.8	23	5.0	31	210	-9.2	-12.0	26	2.0	31	275	5.4	3.9	21	4	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9																	
200	1472	-10.3	-12.9	13	6	31	1118	-8.6	-13.8	23	5.0	31	210	-9.2	-12.0	26	2.0	31	275	5.4	3.9	21	4	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9																	
150	1472	-10.3	-12.9	13	6	31	1118	-8.6	-13.8	23	5.0	31	210	-9.2	-12.0	26	2.0	31	275	5.4	3.9	21	4	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9																	
100	1472	-10.3	-12.9	13	6	31	1118	-8.6	-13.8	23	5.0	31	210	-9.2	-12.0	26	2.0	31	275	5.4	3.9	21	4	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9	31	23	13.6	10.2	34	2.9																	

GUAM, MARIANA IS. 997 MB													HONO, HAWAII 1011 MB													HUNTINGTON W. VA. 990 MB													INTERNATIONAL FALLS, MINN. 972 MB													JACKSON, MISS. 1008 MB												
Standard pressure surface (mb)													Standard pressure surface (mb)													Standard pressure surface (mb)													Standard pressure surface (mb)													Standard pressure surface (mb)												
No. of observations													No. of observations													No. of observations													No. of observations													No. of observations												
Dynamic height													Dynamic height													Dynamic height													Dynamic height													Dynamic height												
Temperature													Temperature													Temperature													Temperature													Temperature												
Dew Point													Dew Point													Dew Point													Dew Point													Dew Point												
Direction													Direction													Direction													Direction													Direction												
Speed M.P.H.													Speed M.P.H.													Speed M.P.H.													Speed M.P.H.													Speed M.P.H.												
Resultant Wind													Resultant Wind													Resultant Wind													Resultant Wind													Resultant Wind												
SURFACE													SURFACE													SURFACE													SURFACE													SURFACE												
1	111	23.8	21.3	06	2.8	31	10	20.3	17.3	21	1.0	31	246	3.9	1.6	25	8	31	359	-20.1	-24.8	23	7	31	100	10.3	8.5	17	4	31	154	13.2	12.7	32	1	31	154	13.2	12.7	32	1	31	154	13.2	12.7	32	1																	
1000	111	23.8	21.3	06	2.8	31	10	20.3	17.3	21	1.0	31	246	3.9	1.6	25	8	31	359	-20.1	-24.8	23	7	31	100	10.3	8.5	17	4	31	154	13.2	12.7	32	1	31	154	13.2	12.7	32	1	31	154	13.2	12.7	32	1																	
950	111	23.8	21.3	06	2.8	31	10	20.3	17.3	21	1.0	31	246	3.9	1.6	25	8	31	359	-20.1	-24.8	23	7	31	100	10.3	8.5	17	4	31	154	13.2	12.7	32	1	31	154	13.2	12.7	32	1	31	154	13.2	12.7	32	1																	
900	111	23.8	21.3	06	2.8	31	10	20.3	17.3	21	1.0	31	246	3.9	1.6	25	8	31	359	-20.1	-24.8	23	7	31	100	10.3	8.5	17	4	31	154	13.2	12.7	32	1	31	154	13.2	12.7	32	1	31	154	13.2	12.7	32	1																	
850	111	23.8	21.3	06	2.8	31	10	20.3	17.3	21	1.0	31	246	3.9	1.6	25	8	31	359	-20.1	-24.8	23	7	31	100	10.3	8.5	17	4	31	154	13.2	12.7	32	1	31	154	13.2	12.7	32	1	31	154	13.2	12.7	32	1																	
800	111	23.8	21.3	06	2.8	31	10	20.3	17.3	21	1.0	31	246	3.9	1.6	25	8	31	359	-20.1	-24.8	23	7	31	100	10.3	8.5	17	4	31	154	13.2	12.7	32	1	31	154	13.2	12.7	32	1	31	154	13.2	12.7	32	1																	
750	111	23.8	21.3	06	2.8	31	10	20.3	17.3	21	1.0	31	246	3.9	1.6	25	8	31	359	-20.1	-24.8	23	7	31	100	10.3	8.5	17	4	31	154	13.2	12.7	32	1	31	154	13.2	12.7	32	1	31	154	13.2	12.7	32	1																	
700	111	23.8	21.3	06	2.8	31	10	20.3	17.3	21	1.0	31	246	3.9	1.6	25	8	31	359	-20.1	-24.8	23	7	31	100	10.3	8.5	17	4	31	154	13.2	12.7	32	1	31	154	13.2	12.7	32	1	31	154	13.2	12.7	32	1																	
650	111	23.8	21.3	06	2.8	31	10	20.3	17.3	21	1.0	31	246	3.9	1.6	25	8	31	359	-20.1	-24.8	23	7	31	100	10.3	8.5	17	4	31	154	13.2	12.7	32	1	31	154	13.2	12.7	32	1	31	154	13.2	12.7	32	1																	
600	111	23.8	21.3	06	2.8																																																											

Average monthly values

JANUARY 1974

[illegible]

Average monthly values

Standard pressure surface (mb.)	NORTH PLATTE, NEBR. 918 MB										OAKLAND, CALIF. 1018 MB										OMAHA, NEBR. 970 MB										PAGO PAGO, AMERICAN SAMOA 1009 MB										PEORIA, ILL. 995 MB									
	No of observations					Resultant wind					No of observations					Resultant wind					No of observations					Resultant wind					No of observations					Resultant wind														
	No.	Dynamic height	Temperature	Dew Point	Direction	Speed	No.	Dynamic height	Temperature	Dew Point	Direction	Speed	No.	Dynamic height	Temperature	Dew Point	Direction	Speed	No.	Dynamic height	Temperature	Dew Point	Direction	Speed	No.	Dynamic height	Temperature	Dew Point	Direction	Speed																				
SURFACE	31	847	-11.1	-15.1	33	1.5	31	6	7.6	4.9	14	.5	31	403	-9.9	-12.7	28	1.5	31	5	29.3	24.2	06	3.0	31	200	-6.3	-9.2	28	1.1																				
1000							31	131	8.7	2.9	13	.8						31	82	27.3	20.6	06	3.7																											
900	31	999	-6.0	-9.8	31	3.9	31	575	7.2	.4	20	.4	31	562	-6.5	-10.0	29	3.1	31	535	23.7	17.6	06	4.7	31	565	-3.7	-8.3	27	4.7																				
850	31	1451	-3.0	-12.1	30	7.4	31	1408	4.2	-8.3	25	1.3	31	988	-3.6	-12.1	29	5.9	31	1005	20.2	14.4	05	5.1	31	995	-2.1	-9.9	27	7.5																				
800	31	1930	-3.9	-13.4	30	9.7	31	1976	1.8	-10.6	20	4.6	31	1441	-2.8	-13.7	29	7.4	31	1449	17.0	10.6	06	5.4	31	1449	-7.5	-11.3	27	10.3																				
750	31	2430	-5.5	-15.0	29	9.7	31	2494	-5.7	-14.9	29	5.9	31	2429	-5.8	-17.2	28	11.5	31	2556	11.8	2.2	07	5.3	31	1929	-3.8	-13.0	27	12.4																				
700	31	2977	-8.1	-16.0	29	11.7	31	3042	-4.0	-19.7	28	8.2	31	2497	-8.5	-20.0	28	14.2	31	3130	8.7	-1.7	07	4.7	31	2438	-5.5	-15.0	26	15.4																				
650	31	3550	-11.2	-20.6	28	13.6	31	3623	-7.2	-22.0	28	10.1	31	3540	-10.7	-22.5	27	17.2	31	3741	5.6	-5.4	08	4.4	31	3552	-9.9	-21.1	26	20.8																				
600	31	4160	-14.8	-24.6	28	16.0	31	4242	-11.1	-24.4	28	11.4	31	4151	-14.1	-26.7	27	18.4	31	4392	2.2	-9.9	09	4.7	31	4160	-13.2	-24.1	26	24.5																				
550	31	4813	-19.0	-28.7	28	17.4	31	4905	-15.5	-27.5	28	13.2	31	4806	-18.3	-31.2	27	20.5	31	5088	-1.5	-14.3	10	3.9	31	4824	-16.9	-28.2	26	28.3																				
500	31	5517	-23.7	-33.5	27	19.5	31	5618	-20.0	-31.5	29	14.8	31	5512	-22.8	-35.8	27	23.3	31	5843	-5.7	-19.3	11	4.4	31	5534	-21.1	-32.6	26	30.9																				
450	31	6278	-28.4	-37.7	27	23.2	30	6399	-24.5	-36.2	28	18.0	31	6277	-27.8	-39.1	26	27.3	31	6662	-10.3	-24.6	11	4.5	31	6303	-26.1	-37.1	26	36.9																				
400	31	7111	-34.5	-43.7	27	25.8	30	7247	-30.4	-40.8	29	20.7	31	7113	-33.4	-43.4	26	31.2	31	7359	-16.1	-30.4	12	4.2																										

PITTSBURGH, PA. 976 MB										PONAPE, CAROLINE IS. 1004 MB										PORTLAND, MAINE 1017 MB										QUILLAYE, WASH. 1008 MB										RAPID CITY, S. DAK. 902 MB									
SURFACE	30	359	-2	-3.6	23	1.5	31	39	28.4	23.1	09	2.0	31	20	-7.2	-10.0	31	1.7	31	58	2.7	.2	15	1.4	31	966	-7.7	-15.0	31	1.1																			
1000							31	71	26.9	22.1	09	2.2	31	15	-5.4	-9.9	29	2.6	24	171	2.1	-2.2	17																										
950	30	571	-5	-3.3	24	4.4	31	524	23.4	20.2	10	3.3	31	554	-5.8	-10.7	27	4.9	31	538	1.4	-1.9	18	3.4																									
900	30	1,025	-1.3	-1.1	25	9.3	31	1,458	19.8	17.1	11	4.9	31	1,422	-7.0	-12.0	27	7.1	31	1,422	-8	-5.5	20	6.4	21	1,913	-10.4	-16.5	32	8.1																			
850	30	1,458	-15	-9.9	24	12.8	31	1,680	19.8	10.7	11	4.9	31	1,422	-13.2	-27	11	31	1,422	-8	-8.0	15	6.4	21	1,913	-4.0	-14.1	30	7.8																				
800	30	1,940	-27	-10.7	26	16.9	31	2,003	15.2	5.7	10	5.4	31	1,894	-7.9	-15.7	27	16.0	31	1,906	-5.1	-11.7	25	7.3	31	1,912	-5.5	-16.0	30	8.1																			
750	30	2,451	-3.8	-12.1	26	20.3	31	2,548	12.8	7.10	5.5	31	2,396	-8.9	-18.5	27	20.0	31	2,411	-7.3	-15.3	27	8.7	31	2,416	-8.1	-17.4	30	10.4																				
700	30	2,994	-6.6	-15.1	26	24.3	31	3,125	9.7	-3.8	6.0	31	2,929	-10.0	-21.4	27	24.3	31	2,946	-10.1	-19.6	28	9.1	31	2,948	-11.8	-20.3	29	11.0																				
650	30	3,570	-8.8	-18.4	26	26.9	31	3,737	6.2	-5.2	6.8	31	3,498	-12.6	-23.4	27	26.9	31	3,515	-12.6	-22.3	28	11.0	31	3,512	-15.0	-22.9	28	13.2																				
600	30	4,187	-11.8	-21.6	26	30.5	31	4,389	2.5	-9.5	6.8	31	4,105	-15.1	-27.3	27	30.4	31	4,122	-15.8	-25.5	29	12.9	31	4,113	-18.5	-25.9	28	15.9																				
550	30	4,805	-15	-25.4	26	34.1	31	5,017	-1.5	-19.9	6.8	31	4,758	-19.1	-29.0	27	35.0	31	4,772	-19.1	-28.9	30	15.5	31	4,761	-22.6	-29.7	28	18.1																				
500	30	5,563	-19.9	-28.9	26	37.8	31	5,841	-5.3	-22.5	6.8	31	5,461	-23.6	-32.7	27	38.6	31	5,476	-24.0	-33.1	30	17.1	31	5,451	-26.9	-34.5	28	20.9																				
450	30	6,337	-25.0	-33.6	26	41.9	31	6,662	-10.0	-26.0	6.8	31	6,224	-28.7	-37.6	27	43.0	31	6,237	-29.0	-37.3	30	17.8	31	6,203	-31.9	-38.1	27	23.6																				
400	30	7,183	-30.7	-38.3	26	44.9	31	7,560	-15.4	-31.4	6.8	31	7,057	-34.3	-43.1	27	42.7	31	7,070	-34.7	-42.0	30	19.1	31	7,025	-37.8	-39.8	27	26.2																				
350	30	8,121	-37.4	-44.6	26	48.4	31	8,559	-22.2	-37.6	6.8	31	7,982	-40.6	-49.4	27	45.7	31	7,992	-41.3	-44.1	31	22.9	31	7,936	-44.2	-39.6	27	27.9																				
300	30	9,165	-45.5		26	51.9	31	9,670	-30.9	-45.1	6.8	31	9,071	-47.6		28	41.2	31	9,083	-48		32	24.3	31	9,031	-50.8		28	29.6																				
250	30	10,237	-53.8		26	54.1	31	10,796	-36.1	-54.1	6.8	31	10,196	-54.3		28	41.2	31	10,207	-54.3		32	25.6	31	10,131	-56.9		28	34.9																				
200	30	11,767	-60.2		27	51.1	30	12,143	-53.1		09	8.8	30	11,607	-59.3					11,606	-58.8		32	25.9	31	11,557	-50.3		27	29.2																			
175	30	12,539	-60.5		27	46.1	30	13,261	-59.8		09	9.6	30	12,446	-58.1					12,444	-57.4		31	22.5	31	12,409	-55.7		27	29.6																			
150	29	13,552	-61.2		27	44.2	30	14,207	-57.3		08	9.5	30	13,417	-58.9					13,421	-56.4		31	21.1	31	13,390	-56.7		27	28.9																			
125	28	14,681	-63.4		27	39.8	30	15,285	-75.2		09	11.4	29	14,555	-59.9					14,578	-56.7		31	19.3	31	14,545	-57.7		27	27.7																			
100	27	16,041	-65.6		27	32.6	30	16,553	-82.1		09	13.3	27	15,946	-62.0					15,991	-57.2		31	16.8	31	15,950	-58.6		28	23.6																			
75	25	17,399	-67.9		27	25.9	29	17,790	-82.4		08	6.0	29	17,306	-62.4					17,400	-56.8		31	12.8	31	17,350	-59.2		28	20.5																			
50	25	18,213	-64.0		27	24.9	30	18,572	-71.8		29	4.1	25	18,132	-62.0					18,243	-56.8		31	13.7	31	18,187	-59.3		28	19.5																			
25	19	19,161	-63.0		27	21.8	30	19,489	-68.4		27	9.3	25	19,087	-61.3					19,219	-57.0		31	12.6	31	19,151	-60.0		28	16.9																			
0	25	20,286	-62.2		27	20.4	30	20,595	-64.1		27	9.2	23	20,212	-60.4					20,375	-56.9		32	11.7	30	20,288	-59.1		28	17.6																			
40	23	21,660	-61.8		27	23.7	30	21,974	-60.2		27	4.3	20	21,621	-59.4					21,803	-56.9		33	11.8	26	21,696	-59.0		28	18.1																			
30	20	23,437	-59.3		27	30.5	28	23,781	-57.1		10	7.5	20	23,423	-58.5					23,676	-55.1		33	10.9	25	23,506	-59.0		29	18.8																			
20	18	24,505	-56.8		26	26.1	28	24,812	-56.8		10	1.1	18	24,456	-57.5					24,695	-53.9		33	12.1	22	24,640	-58.0		30	19.7																			
10	17	26,012	-55.5		26	31.8	28	26,370	-52.0		09	21.8	15	25,999	-56.5					26,300	-52.0		36	14.4	21	26,070	-58.3		30	20.2																			
5	15	27,855	-49.4		26	26.2	24	28,247	-44.4		09	23.2	13	27,843	-52.9					28,201	-50.8		36	14.2	13	27,934	-57.3		30	18.5																			
0	10				26	14	30,927	-46.2		09	26.8	8	30,349	-54.5						30,877	-48.7		11																										

ST CLOUD, MINN. 980 MB					* ST PAUL IS., ALASKA 1012 MB					SALEM, ILL. 999 MB					SALEM, OREG. 1011 MB					SALT LAKE CITY, UTAH 872 MB													
SURFACE	31	316	-13.2	-17.8	28	5	30	10	-2.5	-4.5	06	5.3	31	174	-2.2	-4.2	30	7	31	61	1.7	-2.9	19	2.6	31	1288	-4.4	-8.4	14	2.1			
1000						28	117	-3.0	-4.6	07	5.9	12	223	-9.4	-12.4	36	1.6	25	179	3	.4	5.5	20	2.0									
950	31	548	-12.7	-14.4	28	3.5	30	505	-5.4	-6.9	08	6.8	31	572	-3	-5.7	26	3	9	500	1.5	-3.2	21	4.5									
900	31	963	-10.2	-14.4	28	6.7	30	929	-6.3	-10.6	09	5.8	31	1006	-2	-7.9	26	6.5	31	995	-1.1	-5.3	22	6.5			31	1.4	93	-2.6	-8.1	17	3.7
850	31	1405	-8.6	-16.3	28	9.5	30	1376	-6.6	-12.9	10	5.2	31	1465	9	-11.2	26	8.6	31	1455	-2.2	-8.0	23	6.5			31	4.6	41	-19.8	-27.2	18	15.7
800	31	1879	-7.1	-17.9	28	11.7	30	1879	-7.1	-15.1	11	3.7	31	1992	3	-12.5	26	12.3	31	1932	-1.5	-7.5	24	7.8			31	1.9	73	-10.2	20	4.8	
750	31	2371	-11.9	-20.5	28	13.5	30	2349	-9.6	-17.9	12	3.2	31	2468	-1.3	-14.2	26	16.1	31	2440	-6.0	-14.6	26	9.2	31	2480	-7.0	-11.7	24	6.4			
700	31	2897	-14.2	-23.5	28	15.8	30	2880	-11.9	-20.7	14	2.2	31	3015	-4.0	-16.0	26	18.9	31	2978	-8.9	-18.0	27	10.4	31	3015	-10.3	-14.7	27	7.0			
650	31	3456	-17.4	-26.4	28	17.5	30	3444	-14.7	-23.2	16	2.1	31	3598	-6.9	-18.2	26	22.9	31	3549	-11.5	-21.7	29	11.0	31	3584	-12.9	-19.4	27	9.6			
600	31	4051	-20.8	-29.2	27	19.7	30	4046	-18.2	-27.2	19	1.3	31	4220	-9.7	-23.3	26	25.9	31	4159	-14.8	-24.6	30	11.3	31	4190	-16.0	-23.1	28	12.6			
550	31	4656	-24.2	-32.5	27	22.6	30	4691	-22.0	-29.2	21	4.4	31	4814	-10.2	-27.8	26	29.8	31	4814	-19.0	-28.8	31	13.0	31	4841	-19.8	-27.2	28	15.7			
500	31	5380	-28.2	-36.5	27	25.3	30	5371	-26.4	-32.3	23	5.7	31	5606	-17.7	-30.8	26	32.5	30	5517	-22.2	-32.6	31	14.9	31	5543	-24.2	-31.7	28	17.4			
450	31	6128	-33.0	-40.2	27	28.5	30	6141	-31.4	-35.8	23	7.0	31	6387	-22.9	-36.3	26	35.7	30	6280	-28.0	-37.8	31	16.4	30	6308	-29.9	-37.2	28	16.9			
400	31	6946	-38.7	-41.3	27	30.9	30	6965	-37.0	-41.3	24	8.5	31	7240	-29.0	-40.3	25	39.8	30	7113	-34.7	-43.2	31	17.0	30	7140	-35.2	-41.1	28	20.2			
350	31	7854	-44.8	-47.7	27	34.0	30	7878	-43.6	-45.0	23	10.1	31	8193	-36.3	-46.0	26	40.2	30	8035	-41.3	-46.3	31	18.2	30	8061	-41.7	-45.2	28	22.7			
300	29	8875	-50.7	-53.7	27	37.3	30	8895	-50.0	-53.0	22	10.3	31	9232	-44.6	-46.6	26	43.7	29	9	9	0607	-48.4	33	20.6	30	9088	-48.4	-51.4	29	24.1		
250	29	10051	-56.9	-59.9	27	38.9	30	10070	-55.2	-58.2	22	11.1	31	10318	-49.6	-52.6	26	41.5	29	10	10250	-54.9	33	23.6	30	10257	-54.9	-57.9	29	24.5			
200	28	11481	-58.1	-61.1	27	36.8	30	11490	-57.4	-60.4	22	11.6	31	11837	-50.9	-53.9	26	41.5	29	11	10250	-54.9	33	23.6	30	10257	-54.9	-57.9	29	24.5			
175	28	12332	-55.5	-58.5	27	37.0	30	12347	-52.8	-55.8	23	10.8	31	12669	-60.5	-63.5	26	41.5	29	12	12504	-58.0	33	20.8	29	12526	-56.9	-59.9	28	23.6			
150	27	13318	-56.1	-59.1	27	34.0	30	13345	-52.0	-55.0	23	10.6	30	13628	-61.0	-64.0	26	41.5	29	13	13477	-57.3	31	21.5	29	13500	-57.9	-60.9	28	20.8			
125	26	14460	-56.9	-59.9	27	31.0	30	14528	-51.5	-54.5	23	10.3	30	14758	-62.9	-65.9	26	41.5	28	14	14632	-57.2	31	19.5	29	14649	-58.5	-61.5	28	17.6			
100	24	15864	-58.6	-61.6	27	28.7	30	15975	-51.6	-54.6	24	8.6	28	16125	-64.6	-67.6	26	41.5	27	16041	-58.1	-61.1	32	15.7	29	16045	-60.6	-63.6	28	17.6			
75	20	17257	-60.5	-63.5	27	26.5	30	17322	-51.6	-54.6	25	8.3	27	17483	-65.1	-68.1	26	41.5	27	17490	-57.9	-60.9	32	11.6	25	17434	-59.9	-62.9	28	13.8			
50	22	18092	-59.5	-62.5	27	25.3	30	18259	-51.6	-54.6	26	7.7	27	18299	-64.0	-67.0	26	41.5	27	18299	-58.1	-61.1	34	9.6	24	18258	-58.9	-61.9	29	17.5			
25	20	19057	-59.5	-62.5	28	23.3	27	19290	-50.5	-53.5	26	7.5	26	19242	-63.7	-66.7	26	41.5	27	19263	-57.1	-60.1	32	10.1	24	19233	-57.9	-60.9	29	8.8			
0	20	20190	-59.7	-62.7	28	23.1	26	20491	-50.2	-53.2	27	6.8	25	20370	-62.1	-65.1	26	12.3	24	20417	-56.9	-59.9	33	8.7	21	20369	-57.8	-60.8	29	6.1			
50	19	21583	-59.7	-62.7	28	24.0	26	21952	-49.2	-52.2	28	8.0	24	21757	-60.6	-63.6	28	12.2	23	21834	-55.4	-58.4	34	10.4	19	21777	-57.3	-60.3	30	6.1			
25	17	23406	-59.7	-62.7	29	24.9	25	23858	-48.4	-51.4	29	9.4	23	23560	-58.9	-61.9	28	13.0	23	23672	-54.8	-57.8	35	7.7	17	23605	-56.5	-59.5	32	5.3			
0	17	24507	-59.6	-62.6	29	25.7	25	24960	-47.8	-50.8	30	10.7	22	24777	-57.4	-60.4	29	8.1	22	24868	-53.8	-56.8	35	9.1	14	24793	-54.8	-57.8	34	6.3			
25	10	25937	-59.7	-62.7	28	26.6	24	26331	-47.8	-50.8	31	11.9	20	26331	-57.7	-60.7	28	18.1	20	26458	-57.7	-60.7	34	9.1	12	26458	-57.7	-60.7	32	6.1			
15	5	27809	-54.4	-57.4	19	28.2	29	28429	-47.5	-50.5	31	12.2	19	27977	-53.1	-56.1	27	15.8	14	28145	-51.6	-54.6	35	11.6	8	28114	-52.0	-55.0					
10					14	31.1	165	-47.4	-50.4	33	20.8	10	30640	-47.1	-50.1				7	30782	-50.7	-53.7											

RAWINSONDE DATA

Average monthly values

11-1-74

SAN DIEGO, CALIF. 1003 MB										SAN JUAN, P. R. 1018 MB										SAULT STE MARIE, MICH. 988 MB										SHREVEPORT, LA. 1010 MB										SPOKANE, WASH. 931 MB																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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Average monthly values

JANUARY 1974

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SOLAR RADIATION INTENSITIES

Tabulated in langley's per minute on a surface normal to the direction of the sun.

JANUARY 1974

Date	Sun's zenith distance								
	A. M.				•	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
ALBUQUERQUE, NM									
	Air mass								
	4.19	3.35	2.51	1.67	•	1.67	2.51	3.35	4.19
4-----	----	----	----	----	----	----	.97	.84	----
5-----	----	----	----	1.29	1.32	1.32	----	----	1.00
10-----	----	----	----	(1.39)	----	(1.45)	1.32	1.20	1.11
11-----	1.11	1.20	1.33	1.44	1.43	1.43	1.30	----	(1.09)
12-----	1.10	1.18	1.28	----	1.44	1.39	1.21	1.12	----
13-----	----	----	----	1.38	1.43	----	----	----	----
14-----	(1.01)	(0.98)	(1.22)	(1.34)	(1.37)	1.43	1.31	1.20	1.11
15-----	1.13	1.24	1.34	1.47	1.50	1.48	1.34	1.24	1.14
16-----	1.12	1.21	1.31	1.45	1.48	1.44	1.27	1.18	1.09
17-----	----	1.17	(1.26)	----	1.42	----	----	----	----
19-----	1.04	(1.14)	(1.24)	1.38	1.42	1.38	1.24	1.12	1.05
20-----	1.06	1.16	1.27	1.39	----	----	----	----	----
22-----	1.05	1.17	1.27	1.43	1.47	1.44	1.29	1.18	1.07
23-----	1.09	1.19	1.30	1.44	1.51	----	----	----	----
24-----	.99	1.09	1.26	1.41	1.46	1.41	1.27	1.16	1.05
25-----	1.09	1.18	1.31	1.44	1.49	1.46	1.29	1.17	1.06
26-----	----	----	1.22	----	----	----	----	----	----
27-----	----	----	----	----	----	----	1.28	1.18	1.08
28-----	1.10	----	(1.30)	----	----	----	----	----	----
29-----	1.04	1.17	1.26	1.43	1.48	1.43	1.27	1.18	1.10
30-----	1.07	(1.13)	----	(1.42)	1.47	1.40	1.28	1.16	1.06
31-----	1.09	1.20	1.30	1.44	1.52	1.42	1.28	1.18	1.07
Aver- ages	1.08	1.18	1.29	1.41	1.46	1.42	1.26	1.15	1.08

MADISON, WI									
	Air mass								
	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
1-----	S 1.06	S 1.15	S 1.27	----	S 1.32	----	S 1.29	S 1.14	S 1.04
3-----	----	----	----	----	----	----	S 1.21	S 1.05	S .93
4-----	S 1.01	S 1.11	S 1.24	----	S 1.31	----	S 1.24	S 1.11	S 1.01
7-----	S 1.00	S 1.10	S 1.25	----	S 1.34	----	S 1.28	S 1.11	S 1.01
11-----	S .83	S .91	----	----	----	----	----	----	----
12-----	S 1.05	S 1.12	S 1.23	----	S 1.34	----	----	----	----
24-----	----	----	----	----	----	----	M .33	M .16	----
25-----	M .66	M .73	----	----	----	----	----	----	----
31-----	S 1.01	S 1.09	S 1.20	----	S 1.34	----	S 1.21	S 1.10	S 1.00
Aver- ages	.94	1.03	1.23	----	1.33	----	1.24	.97	.85

OMAHA, NE									
	Air mass								
	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
NO DATA RECEIVED									

Date	Sun's zenith distance								
	A M.				*	P M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
TUCSON, AZ									
	Air mass								
	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
1-----	.94	----	1.18	----	1.38	----	----	----	----
3-----	.91	1.02	1.14	1.34	1.42	----	1.13	.97	.84
4-----	----	----	1.20	1.37	----	----	----	----	----
5-----	----	----	----	----	----	1.40	1.25	----	----
6-----	----	----	----	----	1.42	----	----	----	----
8-----	1.02	1.11	1.24	1.44	----	1.39	----	1.14	1.03
10-----	.90	1.01	1.14	1.29	1.32	1.33	----	1.09	1.01
11-----	.96	1.08	1.24	----	----	----	----	----	----
12-----	1.04	1.14	1.23	1.38	1.40	1.34	1.13	1.04	.92
13-----	.95	1.05	1.18	1.33	1.36	1.34	1.16	1.03	.91
14-----	.90	1.01	1.15	1.33	1.39	1.38	1.23	1.08	1.00
15-----	1.00	1.10	1.20	1.37	1.46	1.39	1.22	1.08	.97
16-----	.99	1.09	1.25	1.39	1.46	1.37	1.17	1.05	.97
17-----	----	1.08	----	----	----	----	----	1.01	.87
18-----	.84	.91	1.04	1.20	1.40	1.31	----	----	----
19-----	----	1.05	1.17	1.33	1.38	1.24	1.15	1.05	.93
20-----	----	----	----	----	----	----	1.20	1.05	.90
21-----	----	----	----	----	----	----	----	----	.96
22-----	1.00	1.10	1.26	1.38	1.43	1.38	1.23	1.13	1.03
23-----	----	----	----	----	----	1.36	1.18	1.06	.95
24-----	.92	1.03	1.14	1.32	1.40	1.31	1.10	.94	.84
25-----	.99	1.09	1.21	1.38	1.45	1.35	1.24	1.12	1.02
26-----	.99	1.09	1.20	1.36	1.43	1.37	1.25	1.09	.97
27-----	----	----	1.29	1.39	1.49	1.37	1.19	1.06	.98
28-----	.93	1.06	1.22	1.37	1.49	1.38	1.27	1.15	1.06
29-----	1.01	1.09	1.21	1.39	1.49	----	1.26	----	----
30-----	1.05	1.12	1.23	1.41	1.50	1.39	----	----	1.03
31-----	.99	1.08	1.21	1.40	1.49	1.43	1.21	1.05	.95
Aver- ages	.96	1.06	1.19	1.35	1.42	1.36	1.20	1.06	.96

MAUNA LOA OBSERVATORY, HI									
	Air mass								
	3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36
1-----	1.17	1.27	1.36	1.49	----	----	----	----	----
2-----	1.19	1.27	1.37	1.50	----	----	----	----	----
3-----	1.19	1.27	1.38	1.49	----	----	----	----	----
8-----	----	----	----	1.47	----	1.48	1.37	1.28	1.20
12-----	----	----	----	----	1.57	1.45	1.30	1.18	1.07
15-----	----	----	----	----	----	----	----	----	1.08
16-----	1.20	1.28	1.36	1.47	1.57	1.45	1.33	1.22	1.12
17-----	1.20	1.29	1.37	1.48	----	----	----	----	----
18-----	1.20	1.28	1.37	1.48	----	----	----	----	----
19-----	1.21	1.28	1.37	1.48	1.55	----	----	----	----
21-----	1.23	1.31	1.41	1.52	----	----	----	----	----
22-----	1.26	1.33	1.42	1.53	1.63	----	1.40	1.30	1.22
23-----	----	----	----	1.50	----	----	----	----	----
25-----	1.26	1.33	1.42	1.53	----	----	----	----	----
26-----	1.23	1.30	----	1.50	----	----	----	----	----
27-----	1.21	1.29	1.39	1.49	----	----	----	----	----
29-----	----	1.27	1.37	1.49	----	----	----	----	----
30-----	1.21	1.29	1.39	1.49	----	----	----	----	----
Aver- ages	1.21	1.29	1.38	1.49	1.58	1.46	1.35	1.25	1.14

NET RADIATION

Net radiation in langley's per day (8 a.m. to 8 a.m.) at Palmer, Alaska.

JANUARY 1974

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Aug.
Langley's	89	79	73	100	88	65	82	45	35	56	116	84	111	53	84	89	91	79	85	98	24	43	65	43	69	56	75	115	73	35	38	73

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average ($\sim 3900 \text{ \AA}$) at Ames, Iowa.

Date,	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langley's, . .	5.97	4.99	6.58	6.58	6.09	4.51	3.41	3.04	5.36	4.14	6.33	7.19	4.99	6.82	6.94	6.09	4.75	2.68	2.19	3.16	3.16	3.77	8.89	8.28	8.16	2.43	5.11	7.55	7.55	7.31	7.80	5.54

TOTAL OZONE DATA

These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code 1 8 0 0 0

Units: Milli-atmo-cms.

[illegible]

REFERENCE NOTES

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES:

Dates in the table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

+ And also on an earlier date or dates.

D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch of water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA - METRIC UNITS: Data from airport unless otherwise specified.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile data can be evaluated.

B Number of days maximum 21.1°C. or above for Alaskan Stations.

Y Peak Gust.

+ And also on an earlier date or dates.

U Indicates Urban site.

R Indicates Rural site.

Ø Station pressures apply to elevations shown in the "Elevations" table of the annual issue of this publication.

Conversion formulae to English Units are as follows:

1 foot = 0.3048 meters

°F. = $9 \times ^\circ\text{C} + 32$

5

1 inch = 25.4 millimeters

1 mile per hour = 0.447 meters per second

HEATING DEGREE DAYS: Data from airport unless otherwise specified.

U Indicates Urban site.

R Indicates Rural site.

COOLING DEGREE DAYS: Data from airport unless otherwise specified.

U Indicates Urban site.

R Indicates Rural site.

STORM SUMMARY:

° Includes crop damage.

C Crop damage.

* No occurrence of storms or unusual weather phenomena reported.

@ Includes heavy sleet storm.

Freezing drizzle and freezing rain, commonly known as glaze.

Ø For breakdown of "All Others," and for detailed listing of other storms, see the Environmental Data Service, NOAA, monthly publication STORM DATA.

† No Storm Data Report received for this State.

<> Report incomplete.

† Storm damages are placed in categories varying from 1 to 9 as follows:

1 Less than \$50

2 \$50 to \$500

3 \$500 to \$5,000

4 \$5,000 to \$50,000

5 \$50,000 to \$500,000

6 \$500,000 to \$5 Million

7 \$5 Million to \$50 Million

8 \$50 Million to \$500 Million

9 \$500 Million to \$5 Billion.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS:

1/ Flooding continued at the end of the month.

NA Not available.

FLOOD STAGE DATA:

Highest Stage Observed

1/ Continued at end of month

— Highest Stage of Record

E Estimated

P Provisional (Flood Stage)

U Unknown

RAWINSONDE DATA (Average Monthly Values):

All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygrometers. These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.

+ Observations for these stations are scheduled at 0000 G.C.T.

† Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

REFERENCE NOTES - Continued

SOLAR RADIATION INTENSITIES: Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

()	Clouds Present	DM	Moderate Dust	HM	Moderate Haze	KS	Slight Smoke
*	Values corresponding to true solar noon	DS	Slight Dust	HS	Slight Haze	M	Moderate Haze-indeter-
BD	Blowing Dust	F	Fog	I	Intense Haze-indeterminable		minable
BN	Blowing Sand	GF	Ground Fog	K	Smoke	N	Sand
D	Dust	H	Haze	KI	Intense Smoke	S	Slight Haze-indeter-
DI	Intense Dust	HI	Intense Haze	KM	Moderate Smoke		minable

NET RADIATION: The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the NOAA, National Weather Service.

SOLAR ULTRA-VIOLET RADIATION DATA: These data are from an U-V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. This instrument has not been checked by the NOAA, National Weather Service.

TOTAL OZONE DATA: The spectrophotometer measures the total amount of ozone in the atmosphere, i.e., the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded *Q Q Q*) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e.g., 350 milli-atmo-cm ozone implies an ozone layer 0.350 centimeter thick. The code *AS* designates the type of measurement made.

DESCRIPTION OF CHARTS

CHART I. A. NORMAL DAILY AVERAGE TEMPERATURE (°F. 1931-60) FOR MONTH. B. TEMPERATURE DEPARTURE FROM 30-YEAR MEAN (°F. 1931-60) FOR MONTH. Chart I-A is reproduced from Environmental Data Service Publication "Climatic Maps of the United States." Chart I-B is a reproduction of monthly chart appearing in "Weekly Weather and Crop Bulletin," a publication of Environmental Data Service.

CHART II. A. TOTAL PRECIPITATION. Chart II. A. is a reproduction of monthly chart appearing in "Weekly Weather and Crop Bulletin."

CHART II. B. PERCENTAGE OF NORMAL PRECIPITATION. Chart II. B. is a reproduction of monthly chart appearing in "Weekly Weather and Crop Bulletin."

CHART III. TRACKS OF CENTERS OF ANTICYCLONES AT SEA LEVEL.

CHART IV. TRACKS OF CENTERS OF CYCLONES AT SEA LEVEL. Centers which can be identified for 24 hours or more are tracked in these charts. Semi-permanent features such as the Great Basin and Pacific Highs and Colorado and Mexico Lows are not shown. The 7:00 a.m., e.s.t., positions are shown by open circles, with the intermediate positions at 6-hour intervals shown by solid dots. The date is given above the circle and the central pressure to whole millibars below. A dashed track indicates a regeneration rather than actual movement to the next position. Solid squares indicate position of stationary center for period shown beside it.

Chart 1. A. Normal Daily Average Temperature (°F. 1941-70), January



B. Temperature Departure from 30 - Year Mean (°F 1941-70), January 1974

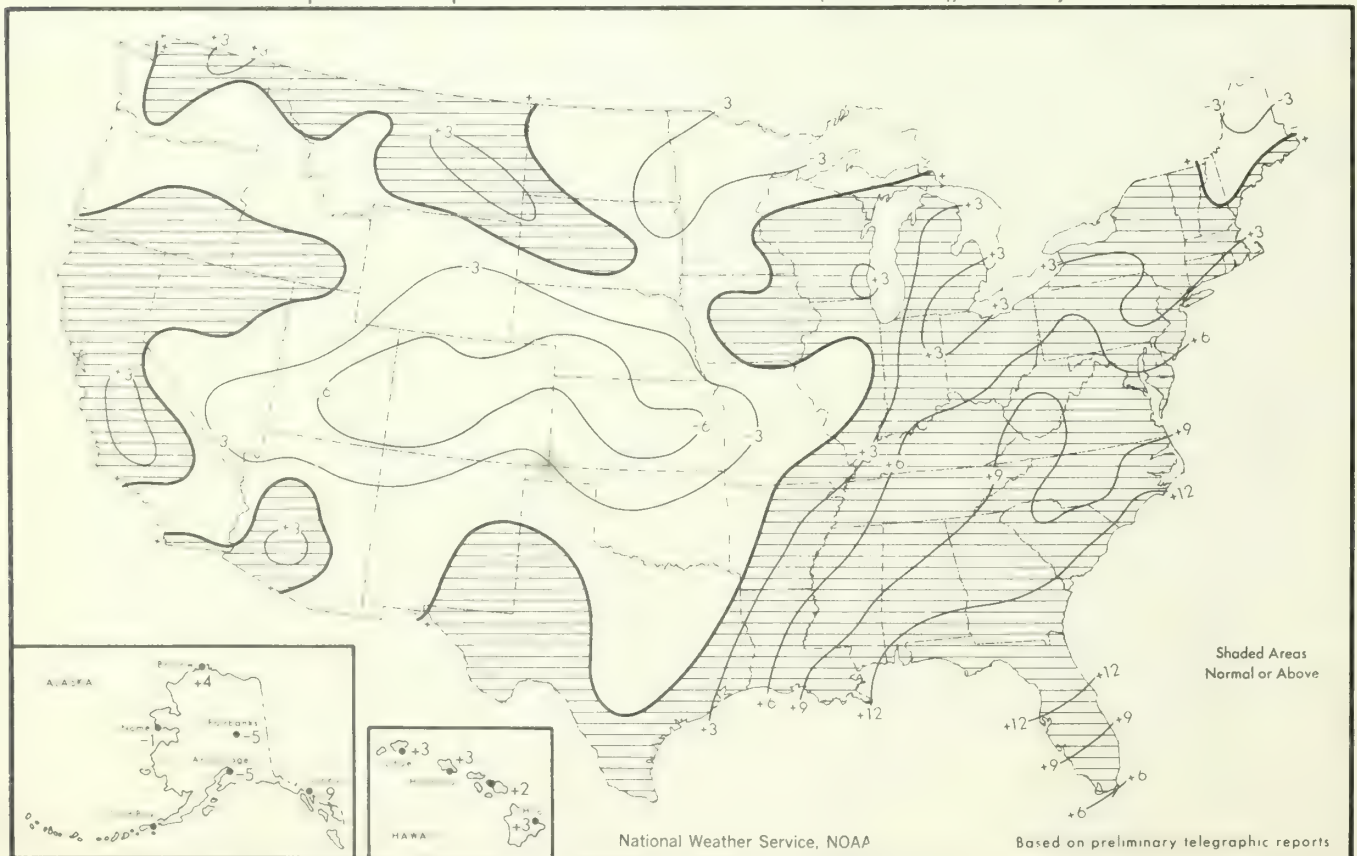
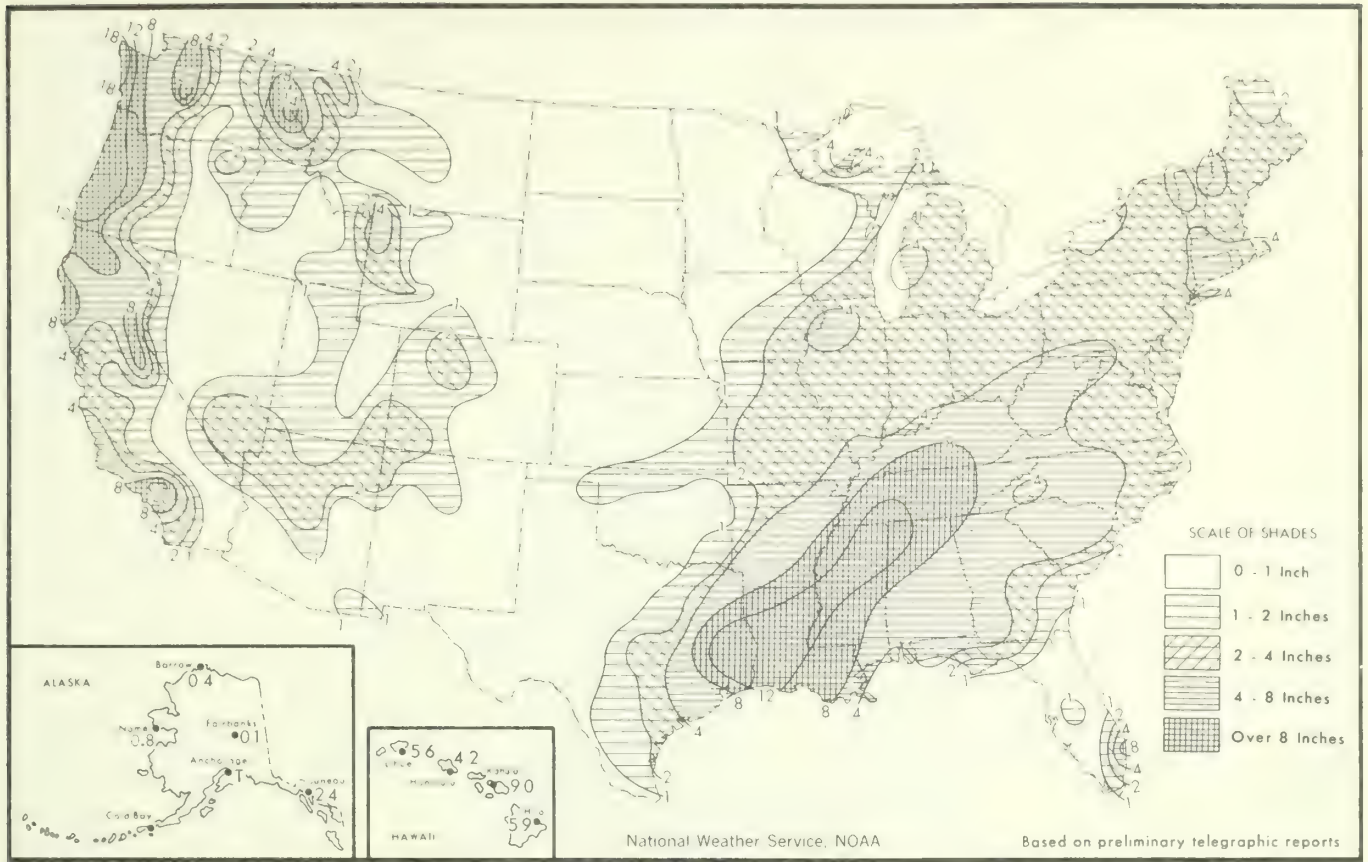


Chart II. A. Total Precipitation (Inches), January 1974



B. Percentage of Normal Precipitation, January 1974

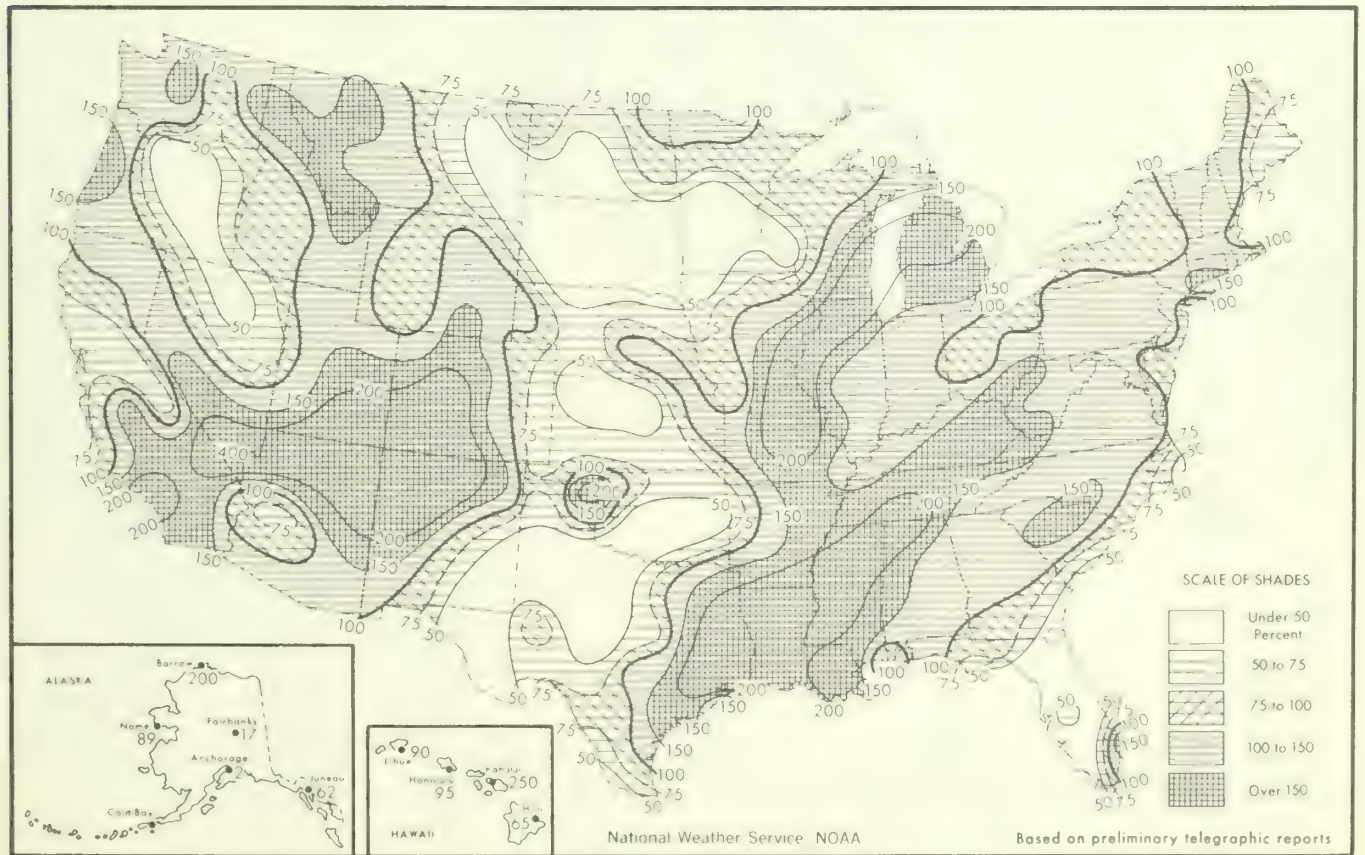
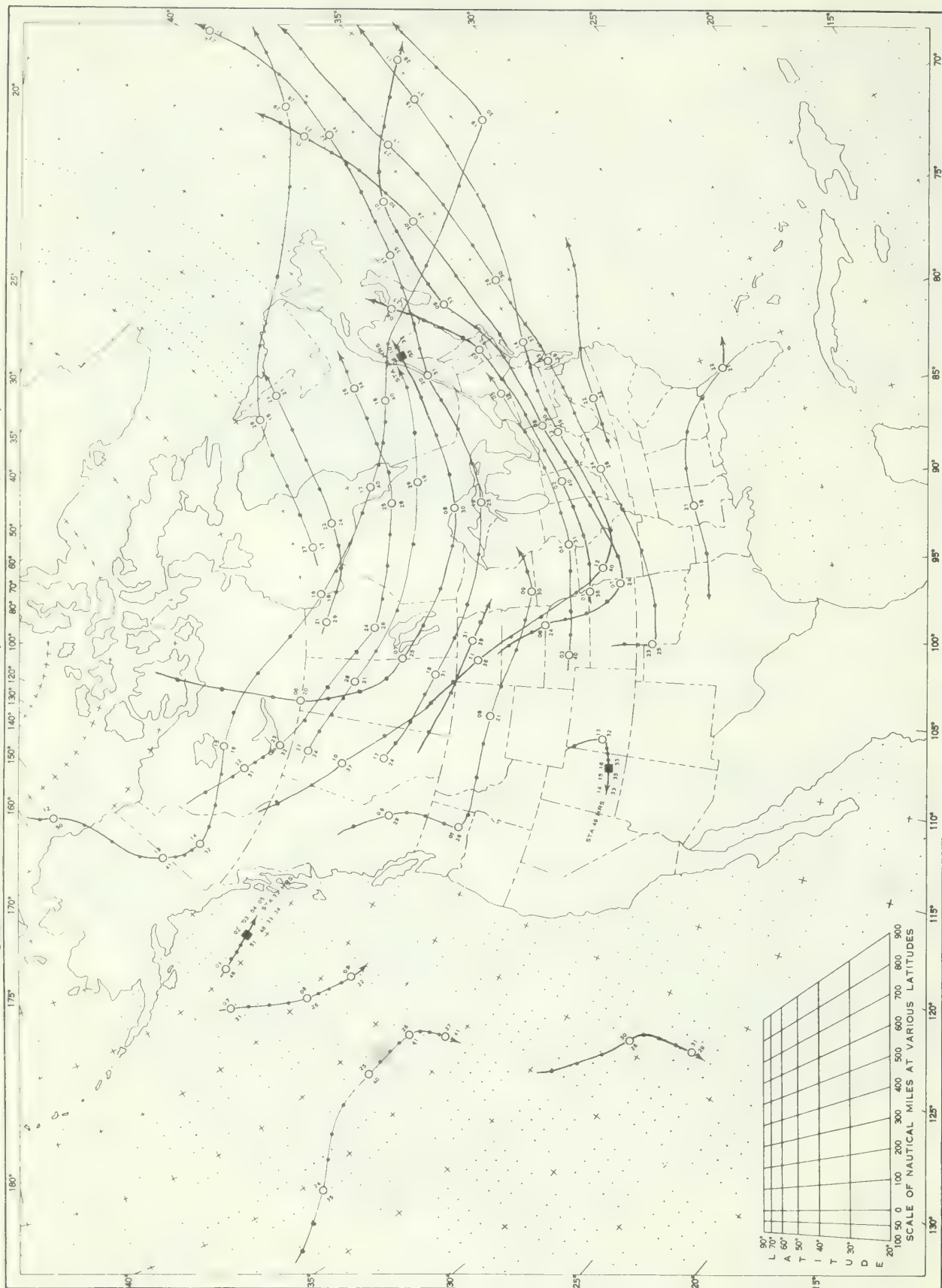
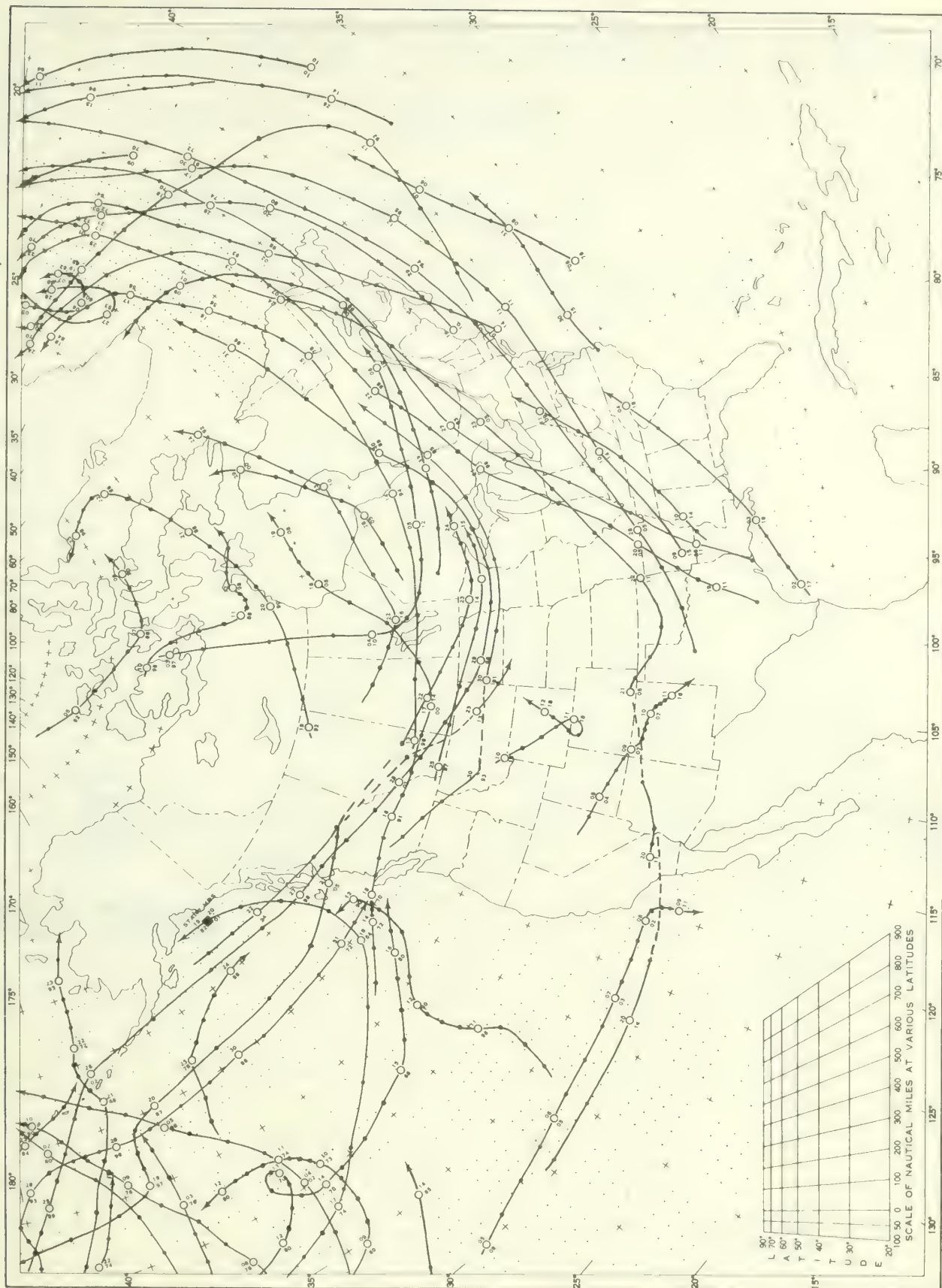


Chart III. Tracks of Centers of Anticyclones at Sea Level, January 1974



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar.
 Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IV. Tracks of Centers of Cyclones at Sea Level, January 1974



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Environmental Data Service



FEBRUARY

1974

Volume 25

No. 2

Wilmington, N.C.

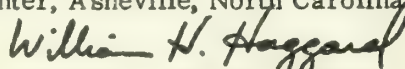
C O N T E N T S

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NOTE: Late reports and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

SUBSCRIPTION PRICE: \$5.50 a year including annual summary; \$1.00 additional for foreign mailing; 40¢ single copy; \$1.00 annual summary. Make checks payable to Department of Commerce, NOAA; send payments and orders to: National Climatic Center, Federal Building, Asheville, N. C. 28801. Attn: Publications.

I certify that this is an official publication of the National Oceanic and Atmospheric Administration, and is compiled from records on file at the National Climatic Center, Asheville, North Carolina, 28801.


 Director, National Climatic Center

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

FEBRUARY 1974

GENERAL SUMMARY OF WEATHER CONDITIONS

Dr. Richard E. Felch, Climatologist

HIGHLIGHTS:

1. Most of the Nation was dry, with only scattered areas of above normal precipitation, generally in the Southeast and Pacific Northwest.
2. It was another month with above normal temperatures predominating over the Nation, except in the Southern Rockies and the Great Lakes area eastward across New England.

PRECIPITATION: On the average, precipitation was well below normal over much of the Nation. Above normal areas were restricted to the Pacific Northwest, portions of the Dakotas and the Corn Belt, portions of Missouri and Oklahoma, and a 7-State area in the Southeast. With the exception of parts of Oklahoma, where rainfall was about twice the normal, departures above normal were small. More significantly, the southern and central Plains, the entire Southwest and other western States and all of Texas received well below normal rainfall. Lubbock, Texas, in the heart of the present drought area, received only 0.01 inch, for a total of 0.09 inch of rainfall during the past 4 months, the lowest 4-month total for any period at that station. Heaviest amounts fell in the Pacific Northwest where 8 inches or more fell along the Pacific Coast. Four inches or more also fell over most of the Southeast, although this is just slightly above normal.

The major storm during the first decade occurred at mid-period when a complex frontal system that stretched from the northern Rockies through Texas moved rapidly eastward. It triggered snow, rain, and thunderstorms from Colorado to the Great Lakes and spread precipitation over New England, mostly as snow. Rain fell over the South with 3 inches or more in southeastern Alabama.

Midmonth was generally dry except for the Southeast which again received plentiful rainfall. Heaviest precipitation over the Northeast occurred during the last decade.

TEMPERATURE: The greatest departures in average monthly temperatures occurred over the Rocky Mountain States, although the greatest variations during the month occurred east of the Rockies. Unusually mild temperatures persisted over the northern Rockies most of the month, and the unusual cold in the Southwest. Temperatures to the east were extremely cold early in the month, while later in the month temperatures began a push for an early spring.

The month began with extremely cold air enveloping all of the area from the Central Plains to the midsouth and all of the Northeast. Temperature extremes were great as temperatures in Minnesota dropped well below zero and over 80° in southern Texas. The cold temperatures continued through the first decade. Temperatures dropped into the 30's on several nights in Florida and into the -30's in Minnesota. Temperatures in the Texas Panhandle tumbled from the 50's and 60's into the low 20's on the 5th and 6th.

Temperatures warmed markedly at midmonth and after a short cold spell, continued warm through the remainder of the month over many parts of the Country. Temperatures reached into the 50's and 60's in many of the Plains States on several days.

The month ended with springlike temperatures across the Nation. Temperatures averaged as much as 15° to 18° above normal over the central Plains. Subnormal temperatures were restricted to Georgia, Florida, and sections of Nevada and Utah.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

FEBRUARY 1974

STATE	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest °F	Date	Station	Lowest °F	Date	Station	Greatest In.	Station	Least In.
Alabama	Brantley	80	4-	3 Stations	10	27-	New Market 2	10.64	Fort Morgan	.72
Alaska	4 Stations	47	23-	2 Stations	-68	19-	Little Port Walter	26.63	2 Stations	T
Arizona	2 Stations	88	28	2 Stations	-10	8-	Hawley Lake	1.12	67 Stations	.00
Arkansas	3 Stations	80	7	Gilbert	8	25	Crossett 7 S	6.15	Gilbert	.94
California	Fontana Kaiser	91	25	2 Stations	-9	20-	Gasquet Ranger Station	16.68	65 Stations	.00
Colorado	2 Stations	72	28-	Taylor Park	-39	24-	Palmer Lake	3.08	Brandon	.00
Connecticut	2 Stations	59	23-	Coventry	-8	10	Brooklyn	4.01	Wigwam Reservoir	1.34
Delaware	2 Stations	69	22	Bridgeville 1 NW	2	10	Wilmington Porter Reservoir	2.28	Middletown 1 WSW	1.25
Florida	Apalachicola	90	21	Fountain 3 SSE	16	27	Milton Exp. Station	6.12	3 Stations	.00
Georgia	7 Stations	80	22-	3 Stations	10	27-	Blakely	10.21	Folkston 3 SW	2.29
Hawaii	Kanalohulu 1075, Kauai	89	23	Mauna Loa Slope Obs, Hawaii	27	21	Mount Waialeale 1047, Kauai	21.42	3 Stations	.00
Idaho	2 Stations	65	28	Island Park Dam	-27	23	Elk River 1 S	6.32	May	.00
Illinois	Makanda 1 NW	73	28	Antioch 2 NW	-19	9	Alton Dam 26	4.50	Paw Paw	.52
Indiana	Evansville	68	1	2 Stations	-5	26-	Martinsville 2 SW	3.72	Gary	.33
Iowa	Sidney	66	17	Elkader 5 SSW	-19	7	Anamova 1 WNW	3.83	Hawarden	.03
Kansas	Mound Valley 3 WSW	79	13	2 Stations	0	24	Sedan	2.37	10 Stations	.00
Kentucky	Barren River Reservoir	74	1	Gray Hawk	2	27	Cumberland Falls State Pk.	4.71	2 Stations	.85
Louisiana	4 Stations	83	3-	Ashland 2 S	19	25	Opelousas	8.51	Diamond 4 NW	.89
Maine	Sanford 2 NNW	53	1	Van Buren 2	-22	15	Bar Harbor	5.18	Presque Isle	1.14
Maryland	2 Stations	74	22	2 Stations	-5	10	Bittering 2 NW	3.33	Waldorf Police Barracks	.49
Massachusetts	4 Stations	59	23-	2 Stations	-16	11-	Chatham WSMO	4.22	Dracut	2.01
Michigan	Grand Island 1 W	57	28	Dunbar Forest Exp. Station	-31	5	Holland	3.44	Kenton U. S. Forest	.47
Minnesota	3 Stations	54	28-	2 Stations	-37	4	Wirona	1.69	High Landing 2 NW	T
Mississippi	5 Stations	79	6-	Fulton 3 W	11	26	Vandave	9.47	Merrill	2.44
Missouri	Ozark Beach	76	2	Shelbina	-3	25	Webster Groves	4.36	Amity	.53
Montana	Yellowtail Dam	66	16	2 Stations	-22	24-	Summit	5.20	5 Stations	.00
Nebraska	Beaver City	72	26	Harrisburg 10 NW	-16	6	Dalton	1.51	2 Stations	.00
Nevada	Sunrise Manr Las Vegas	78	28	Mountain City Ranger Sta.	-18	23	Lamoille 3 E	1.45	9 Stations	.00
New Hampshire	Greenland	56	23	First Conn Lake	-29	16	Mount Washington	9.43	Colebrook 2 E	1.40
New Jersey	Burlington	70	22	Chatsworth	-5	10	Long Branch 2 S	3.37	Cranford	1.24
New Mexico	Hobbs	83	28	Eagle Nest	-23	8	Tres Ritos	2.20	16 Stations	.00
New York	2 Stations	64	23-	Old Forge	-24	15-	Slide Mountain	4.94	Watertown FAA AP	.71
North Carolina	2 Stations	77	3	Grandfather Mountain	-4	26	Nantanala	9.74	Reidsville 2 NW	2.61
North Dakota	Medora	66	26	Upham 3 N	-37	4-	Kenmare 1 WSW	1.69	3 Stations	T
Ohio	2 Stations	68	22-	Chardon	-12	10	Wilmington	2.80	2 Stations	.90
Oklahoma	3 Stations	82	27-	2 Stations	6	25	Dewar 2 NE	4.39	3 Stations	.00
Oregon	2 Stations	72	9-	Seneca	-12	6	Valsetz	22.88	Alkali Lake	.04
Pennsylvania	2 Stations	71	22	Lawrenceville	-15	5	Long Pond 2 W	3.59	Everett 1 SW	.46
Puerto Rico & VI	Trujillo Alto 2 SSW, PR	91	7	Adjuntas Substation, PR	47	10-	Pico Del Este, PR	6.76	Dorothea Agri Exp Sta, VI	.00
Rhode Island	Providence WSO AP	59	22	2 Stations	2	10-	North Scituate 4 W	3.21	Block Island WSO AP	2.12
South Carolina	2 Stations	82	2	Longcreek 1 N	9	26	Longcreek 1 N	8.20	Hilton Head	2.14
South Dakota	Wanner	70	26	Britton	-29	3	Lead 1 E	1.44	Fort Sully 8 NE	T
Tennessee	Centerville Water Plant	76	2-	3 Stations	4	27-	Monteagle	7.34	Samburg Wildlife Refuge	1.99
Texas	Zapata	99	18	Plains	6	9	Evadale	3.70	74 Stations	.00
Utah	Saint George	72	28	Scofield	-28	24	Alta	5.88	6 Stations	.00
Vermont	Dorset 1 S	57	23-	West Burke	-24	16-	Mount Mansfield	4.19	Saint Albans Bay	.99
Virginia	2 Stations	73	22	Burkes Garden	-8	5	Abingdon 3 S	5.62	Staunton Sewage Plant	.45
Washington	Richland	61	26	Chesaw 4 NNW	0	23	Aberdeen 20 NNE	20.58	Sunnyside	.39
West Virginia	Martinsburg FAA AP	75	22	Reedsville Exp. Farm	-5	5	Pickens 1	5.14	Renick 2	.38
Wisconsin	Necedah	52	12	Dodge	-28	8	Milwaukee WSO AP	3.10	Eagle River	.37
Wyoming	2 Stations	64	28	Bondurant 3 NW	-33	24-	Burgess Junction	2.40	8 Stations	.00

METRIC UNITS

FEBRUARY 1974

[illegible]

CLIMATOLOGICAL DATA

METRIC UNITS

JANUARY 1974

State and Station	Elevation/ground	Pressure		Temperature				No. of days			Precipitation				Snow, ice pellets		Wind			No. of days sunrise to sunset	Sky cover tenths																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
		Station	Sea level	Average		Departure from normal	Highest	Lowest	Date	Max 32° (° or above)	Min 0° (° or below)	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	25 mm. or more	With thunderstorms	Total			Mm	Mm	Mps	Resultant speed	Resultant direction	Speed	Direction	Date																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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COLORADO	M	Mb	Mb	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C

FEBRUARY 1974

- 7 -

METRIC UNITS

- 9

[illegible]

METRIC UNITS

FEBRUARY 1961

[illegible]

CLIMATOLOGICAL DATA

METRIC UNITS

FEBRUARY 1974

State and Station	Elevation (ground)	Pressure		Temperature										Precipitation				Wind				No. of days (sunrise to sunset)		Possible sunshine %																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
		Station Q	Sea level	Average maximum		Average minimum		Average		Departure from normal		Highest		Date		Lowest		Date		No. of days					Average relative humidity		Total		Departure from normal		Greatest in 24 hours		25 mm. or more		With thunderstorms		No. of days		Snow, ice pellets		Resultant speed		Fastest mile (1.6 kilometers)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
		C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F

(Base 65°F.)

FEBRUARY 1974

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COOLING DEGREE DAYS

(Base 65°F.)

January 1974

State and station	Current season		Normals January through this month	State and station	Current season		Normals January through this month	State and station	Current season		Normals January through this month	State and station	Current season		Normals January through this month
	This month	Period January through this month			This month	Period January through this month			This month	Period January through this month			This month	Period January through this month	
ALABAMA				HAWAII				NEBRASKA				SOUTH CAROLINA			
BIRMINGHAM	3	7		HILO	219	518		GRAND ISLAND	0	0		CHARLESTON	7	48	
HUNTSVILLE	0	0		HONOLULU	270	570		LINCOLN	0	0		CHARLESTON	6	41	
MOBILE	19	104		KAHULUI	229	506		NORFOLK	0	0		COLUMBIA	8	37	
MONTGOMERY	4	20		LIHUE	272	572		NORTH PLATTE	0	0		GRNVILLE-SPRTNBURG	0	1	
ALASKA				IDAHO				OMAHA	0	0		SOUTH DAKOTA			
ANCHORAGE	0	0		BOISE	0	0		SCOTTSBLUFF	0	0		ABERDEEN	0	0	
ANNETTE	0	0		LEWISTON	0	0		VALENTINE	0	0		HURON	0	0	
BARROW	0	0		POCATELLO	0	0		NEVADA				RAPID CITY	0	0	
BARTER ISLAND	0	0		ILLINOIS				ELKO	0	0		SIOUX FALLS	0	0	
BETHFL	0	0		CAIRO U	0	0		FLY	0	0		TENNESSEE			
BETTS	0	0		CHICAGO O HADP	0	0		LAS VEGAS	0	0		BRISTOL	0	0	
BIG DELTA	0	0		CHICAGO MIDWAY	0	0		PEMO	0	0		CHATTANOOGA	0	0	
COLD BAY	0	0		MOLINE	0	0		WINNEMUCCA	0	0		KNOXVILLE	0	0	
FAIRBANKS	0	0		PEORIA	0	0		NEW HAMPSHIRE				MEMPHIS	0	6	
GULKANA	0	0		ROCKFORD	0	0		CONCORD	0	0		NASHVILLE	0	0	
HOMER	0	0		SPRINGFIELD	0	0		MT WASHINGTON OBS	0	0		OAK RIDGE R	0	0	
JUNEAU	0	0		INDIANA				NEW JERSEY				TEXAS			
KING SALMON	0	0		EVANSVILLE	0	0		ATLANTIC CITY	0	0		ABILENE	7	7	
KODIAK	0	0		FORT WAYNE	0	0		ATLANTIC CITY U	0	0		AMARILLO	0	0	
KOTzebue	0	0		INDIANAPOLIS	0	0		NEWARK	0	0		AUSTIN	21	27	
MC GRATH	0	0		SOUTH BEND	0	0		TRENTON U	0	0		BROWNSVILLE	75	158	
NOPE	0	0		IOWA				NEW MEXICO				CORPUS CHRISTI	60	112	
ST. PAUL ISLAND	0	0		BURLINGTON	0	0		ALBUQUERQUE	0	0		DEL RIO	10	12	
STUMMIT	0	0		DES MOINES	0	0		CLAYTON	0	0		EL PASO	0	0	
TALKEETNA	0	0		DUBUQUE	0	0		ROSWELL	0	0		FORT WORTH	2	2	
UNALAKLEET	0	0		ST. LOUIS	0	0		NEW YORK				GALVESTON U	14	24	
YAKUTAT	0	0		WATERLOO	0	0		ALBANY	0	0		HOUSTON INTERCON	73	57	
ARIZONA				KANSAS				BINGHAMTON	0	0		LUBBOCK	0	0	
FLAGSTAFF	0	0		CONCORDIA	0	0		BUFFALO	0	0		MIDLAND	0	0	
PHOENIX	2	2		DODGE CITY	0	0		NEW YORK U	0	0		PORT ARTHUR	15	42	
TUCSON	0	0		GOODLAND	0	0		NEW YORK KENNEDY	0	0		SAN ANGELO	4	7	
WINSLOW	0	0		TOPEKA	0	0		NEW YORK LA GUARDIA	0	0		SAN ANTONIO	22	33	
YUMA	0	0		WICHITA	0	0		ROCHESTER	0	0		VICTORIA	18	48	
ARKANSAS				KENTUCKY				SYRACUSE	0	0		WACO	5	5	
FORT SMITH	0	0		COVINGTON	0	0		NORTH CAROLINA				WICHITA FALLS	0	0	
LITTLE ROCK	0	0		LEXINGTON	0	0		ASHEVILLE	0	0		UTAH			
CALIFORNIA				LOUISVILLE	0	0		CAPE HATTERAS R	0	7		MILFORD	0	0	
BAKERSFIELD	0	0		LOUISIANA				CHARLOTTE	0	0		SALT LAKE CITY	0	0	
BISHOP	0	0		ALFANDRIA	11	37		GREENSBORO	0	0		WENDOVER	0	0	
BLUE CANYON	0	0		BATON ROUGE	21	78		PALEIGH	0	0		VERMONT			
EUREKA U	0	0		LAKE CHARLES	17	51		WILMINGTON	0	25		BURLINGTON	0	0	
FRESNO	0	0		NEW ORLEANS	27	98		NORTH DAKOTA				LYNCHBURG	0	0	
LONG BEACH	0	0		SHREVEPORT	6	13		BISMARCK	0	0		NORFOLK	0	3	
LOS ANGELES	3	3		MAINE				FARGO	0	0		RICHMOND	0	0	
LOS ANGELES U	5	8		CARIBOU	0	0		WILLISTON	0	0		ROANOKE	0	0	
MT SHASTA R	0	0		PORTLAND	0	0		OHIO				WALLOPS ISLAND	0	0	
OAKLAND	0	0		MARYLAND				AKRON	0	0		WASHINGTON			
RED BLUFF	0	0		BALTIMORE	0	0		CINCINNATI ABBE OB.	0	0		OLYMPIA	0	0	
SACRAMENTO	0	0		MASSACHUSETTS				CLEVELAND	0	0		QUILLAYUTE	0	0	
SANBERG	0	0		BLUE HILL OBS R	0	0		COLUMBUS	0	0		SEATTLE	0	0	
SAN DIEGO	0	0		BOSTON	0	0		DAYTON	0	0		SEATTLE-TACOMA	0	0	
SAN FRANCISCO	0	0		WORCESTER	0	0		MANSFIELD	0	0		SPOKANE	0	0	
SAN FRANCISCO U	0	0		MICHIGAN				TOLEDO	0	0		STAMPEDE PASS R	0	0	
SANTA MARIA	0	0		ALPENA	0	0		YOUNGSTOWN	0	0		WALLA WALLA U	0	0	
STOCKTON	0	0		DETROIT	0	0		OKLAHOMA				YAKIMA	0	0	
COLORADO				DETROIT METRO.	0	0		OKLAHOMA CITY	0	0		WEST INDIES			
ALAMOSA	0	0		FLINT	0	0		TULSA	0	0		SAN JUAN P.R.	368	758	
COLORADO SPRINGS	0	0		GRAND RAPIDS	0	0		OREGON				WEST VIRGINIA			
DENVER	0	0		HOUGHTON LAKE	0	0		ASTORIA	0	0		BECKLEY	0	0	
GRAND JUNCTION	0	0		LANSING	0	0		BURNS U	0	0		CHARLESTON	0	0	
PUEBLO	0	0		MARQUETTE U	0	0		EUGENE	0	0		ELKINS	0	0	
CONNECTICUT				MUSKOGON	0	0		MEACHAM	0	0		HUNTINGTON	0	0	
BRIDGEPORT	0	0		SAULT STE MARIE	0	0		MEDFORD	0	0		PARKERSBURG U	0	0	
HARTFORD	0	0		MINNESOTA				PENDLETON	0	0		WISCONSIN			
DELAWARE				DULUTH	0	0		PORTLAND	0	0		GREEN BAY	0	0	
WILMINGTON	0	0		INTERNATIONAL FALLS	0	0		SALT LAKE	0	0		LA CROSSE	0	0	
DIST.OF COLUMBIA				MINNEAPOLIS	0	0		SEXTON SUMMIT R	0	0		MADISON	0	0	
WASHINGTON DULLES	0	0		ROCHESTER	0	0		PACIFIC AREA				MILWAUKEE	0	0	
WASHINGTON NATIONAL	0	0		ST CLOUD	0	0		GUAM TAGUAC R	389	782		WYOMING			
FLORIDA				MISSISSIPPI				JOHNSTON	346	752		CASPER	0	0	
APALACHICOLA U	23	90		JACKSON	8	33		KOROR R	476	980		CHEYENNE	0	0	
DAYTONA BEACH	50	197		MERIDIAN	8	33		KWAJALFIN	476	997		LANDER	0	0	
FORT MYERS	92	346		MISSOURI				MAJURO	449	918		SHERIDAN	0	0	
JACKSONVILLE	29	121		COLUMBIA REGIONAL	0	0		PAGO PAGO	396	884					
KEY WEST	194	565		KANSAS CITY	0	0		DONAPE R	467	931					
LAKELAND U	59	252		ST JOSEPH	0	0		TRUK MOEN ISLAND	469	967					
MIAMI	150	444		ST LOUIS	0	0		WAKF	329	697					
ORLANDO	51			SPRINGFIELD	0	0		YAP R	455	907					
PENSACOLA	24	117		MONTANA				PENNSYLVANIA							
TALLAHASSEE	22	110		BILLINGS	0	0		ALLENTOWN	0	0					
TAMPA	55	251		GLASGOW	0	0		ERIE	0	0					
WEST PALM BEACH	117	379		GREAT FALLS	0	0		HARRISBURG	0	0					
GEORGIA				HAVRF	0	0		PHILADELPHIA	0	0					
ATHENS	0	0		HELENA	0	0		PITTSBURGH	0	0					
ATLANTA	1	1		KALISPELL	0	0		SPRANTON	0	0					
AUGUSTA	4	5		MILES CITY	0	0		WILLIAMSPORT	0	0					
COLUMBUS	6	24		MISSOULA	0	0		RHODE ISLAND							
MACON	6	23						BLOCK ISLAND	0	0					
ROME	0	0						PROVIDENCE	0	0					
SAVANNAH	9	41													

STORM SUMMARY

FEBRUARY 1974

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	DAMAGE	DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE	
								PROP. ERTY	CROPS			PROP. ERTY	CROPS			PROP. ERTY	CROPS			PROP. ERTY	CROPS			PROP. ERTY	CROPS			PROP. ERTY	CROPS
Alabama	2	1			4						4	5																	
Alaska	*																												
Arizona	*										1	4				4													
Arkansas																													
California																													
Colorado																													
Connecticut																													
Delaware																													
Florida	4	2		56	6											3						1	3		6		1	6	
Georgia	2	2		1	6			2								4													
Hawaii	*																												
Idaho										1	4	5																	
Illinois										1								2											
Indiana	*																												
Iowa																													
Kansas																													
Kentucky																													
Louisiana	7	4			5			3			3	4						1			4								
Maine																													
Maryland & D.C.																													
Massachusetts																3													
Michigan	1	1			2																							4	
Minnesota	*																												
Mississippi	4	3		13	5																								
Missouri	*												5° C																
Montana	*																												
Nebraska	*																												
Nevada											3	5																	
New Hampshire	*																												
New Jersey											2																		
New Mexico	*																												
New York											2	5						29			1								
North Carolina														1	2														
North Dakota																													
Ohio											2	4																	
Oklahoma	1	1																											
Oregon																													
Pacific Area	*																												
Pennsylvania																													
Puerto Rico	*													1	5	4					36								
Rhode Island																													
South Carolina	1	1			5						1	4			2	4													
South Dakota	*																												
Tennessee	*																												
Texas	1	1			3																								
Utah																													
Vermont	*																												
Virginia																													
Virgin Islands																													
Washington	*																												
West Virginia	*																												
Wisconsin																													
Wyoming	*																												

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

FEBRUARY 1974

Herbert J. Thompson and Raymond J. Haley
Office of Hydrology

There was an absence of significant new flooding but the serious flooding of previous months continued into February. The Lower Ohio and Lower Mississippi were the principal basins affected. Backwater flooding from ice jams was reported from Vermont, Iowa, Illinois, and Michigan. Minor to mod-

erate flooding occurred in North Carolina, Georgia, Florida, Alabama, Illinois, Indiana, Kentucky, Missouri, Arkansas, Texas, and Oregon.

Hydrologic events of unusual significance or involving loss of life or property damage are discussed in more detail below.

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
ST. LAWRENCE DRAINAGE			
Grand River (Michigan)	High water continued on the Grand River from January as the month began. From the 5th to the 15th ice jams caused frequent fluctuations in stage of several feet. At Portland a rise of 7 feet in 48 hours crested on the 8th. Ice jams were a threat around Grand Rapids and above Lansing where several homes were flooded in the Grand Pointe subdivision near Dimondale.	0	5
Raisin River (Michigan)	An ice jam caused flooding in Monroe City on the 6th-15th with several families evacuated and some roads flooded.	0	N.A.
ATLANTIC SLOPE DRAINAGE			
Lumber Pee Dee and Edisto Basins	Four periods of rainfall during the month totaled about 5 inches over the upper Pee Dee River. At Pee Dee, SC, flooding continued from January and lasted the entire month. Logging operations were halted for the month.	0	5
	In the Edisto Basin rainfall totals of up to 7 inches were observed for the month with minor damage of \$2,000 reported in Givhans Ferry State Park. The Lumber River was above flood stage most of the month at Lumberton, NC, with damage estimated at \$3,000.		
EAST GULF OF MEXICO DRAINAGE			
Choctawhatchee River Basin	Rains of 4 to 6 inches on the 6th-7th caused a sharp rise on the Choctawhatchee River with nearly 2 feet of overflow along the lower reaches in Florida. Damage was mainly to highways and railroads.	0	30
Tombigbee River Basin	Both the Black Warrior and Tombigbee were receding from the serious flooding of January as the month began with the Black Warrior falling below flood stage on the 12th. Moderate to heavy rains on the 1st and the middle reaches of the Tombigbee River by the 12th. Moderate to heavy rains on the 14th, 18th and 21st caused minor	0	157

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

FEBRUARY 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
EAST GULF OF MEXICO DRAINAGE-Con't			
	flooding on the Black Warrior and the middle reaches of the Tombigbee with a secondary crest at Coffeetown, AL, which remained above flood stage the entire month. Damage in addition to that previously reported was \$121,000 to agriculture and \$36,000 to highways and railroads.		
Pearl River	Flooding which had been in progress since late in December continued through February along the Pearl River. Several of the upstream stations dropped below flood stage for a period but promptly returned to flood condition later in the month in response to rainfall which was again above normal. Monthly totals generally were in the range of 4-6 inches.	0	N.A.
UPPER MISSISSIPPI BASIN			
Des Moines River Basin	An ice jam on the North Fork Raccoon River about 15 miles below Jefferson, IA, caused several feet of overflow in that area. Flooding was quite localized affecting mainly farmland.	0	N.A.
Illinois and Big Muddy Rivers	Flooding which began in January continued during the first part of February along the middle reaches of the Illinois. The lower reaches, at and below Havana, IL, remained above flood stage the entire month. Moderate to heavy rain mixed with snow on the 22d caused a rise which crested up to 2.6 feet over flood stage along the middle and upper reaches of the stream and prolonged the flooding along the lower reach. The storm of the 22d also caused a significant rise on the lower Big Muddy River which had been over flood stage at the beginning of the month as a result of backwater from the flooding Mississippi.	0	N.A.
OHIO BASIN			
Wabash Basin	The serious flooding which began in January along the middle and lower Wabash and White Rivers and their tributaries continued into the first two weeks of February. Damage for this period of flooding was given in the January report. Most of the month's precipitation (which was about normal) fell during the last half of the month and resulted in relatively minor flooding along the middle Wabash and lower Embarrass Rivers.	0	N.A.
Tennessee Basin	Torrential rains drenched the headwaters of the French Broad River in western	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

FEBRUARY 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
OHIO BASIN-Con't			
	North Carolina during the night of the 21st. Rainfall amounted to 4 inches in that area but tapered off rapidly downstream and flooding was only minor by the time the crest reached Rosman, NC.		
	During the early part of the month flooding continued from January on the lower Tennessee River. A brief period of minor flooding occurred the middle of the month on the lower Tennessee and South Chickamauga Creek.		
Ohio River	During the early part of the month flooding continued from January along the lower Ohio from Newburgh, IN, to Fords Ferry, KY and at Cairo, IL. Heavy rain on the 22d over lower Ohio tributary basins as well as tributaries of the Mississippi in Illinois and Missouri caused a return to flood condition at Cairo which extended into March.	0	N.A.
WHITE BASIN			
Black, Cache and White Rivers	Flooding continued from January during the early part of the month. The Black River went below flood stage on the 9th but the lower Cache and White Rivers remained over flood stage the whole month. Monthly rainfall totals were below normal but most of the rain fell during one period, the 19th-22d, causing a substantial rise on the Black River which crested 7.5 feet over flood stage on the 23d at Black Rock, AK.	0	N.A.
RED BASIN			
Quachita-Black and Red Rivers (Louisiana)	Rainfall totals for February over the Quachita-Black Basin ranged from 3 to 6 inches. Flooding of unprotected lowlands continued throughout the month around Monroe, and below Jonesville Lock. Flow from the Black River combined with high stages in the Mississippi caused flooding of unprotected lowlands below Alexandria on the Red River. There are no reporting stations below Alexandria.	0	N.A.
LOWER MISSISSIPPI BASIN			
St. Francis River	Flooding continued at St. Francis, AR, from January during the first few days of the month. Rain on the 19th and 22d caused a rise to above flood stage late in the month. Damage was estimated at \$40,000 for the January-February flooding with 104,000 acres flooded of which 29,000 were cleared and 75,000 were timberland.	0	40

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

FEBRUARY 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
LOWER MISSISSIPPI BASIN-Con't			
Tallahatchie, Yagoo, and Big Black Rivers	Flooding continued along these streams into February with stages gradually decreasing. Monthly rainfall totals ranged from 3 to 8 inches with 4 to 6 inches most general. This rainfall did not cause any significant new flooding but widespread lowland flooding of farms and timberlands was prolonged. Logging operations were halted and farmland preparation was delayed. No further evacuations were necessary but those evacuated from the Yazoo Basin in January were unable to return. Backwater from the Mississippi caused continued flooding in the lower Yazoo.	0	N.A.
Lower Mississippi Main Stem	<p>The rise on the Lower Mississippi River in the Caruthersville-Memphis-Helena reach, which began during the last week in December and continued throughout the month of January, reached a crest early in February.</p> <p>The crest at Caruthersville, MO, was 39.3 feet, which was 7.3 feet above flood stage with a corresponding overflow into the unprotected lowlands of northwest Tennessee. The crest was long and flat and occurred over the 4-day period of the 2d-5th. Repair work in the area to damage caused by the 1973 flood had not yet been completed due to high-water interruptions during the working season, and this new flood aggravated the previous damage, and further delayed repair work. This was true of work on the main stem levees, and more particularly to private earthen levees where wind and wave action contributed to further erosion. Stages fell steadily after the crest and went below the 32-foot flood level on the 16th, after 37 consecutive days above flood stage. The magnitude of the crest above flood stages decreased downstream to Helena, AK, which just reached flood stage. Damage in the Caruthersville to Helena reach totaled \$797,000 with 475,000 acres flooded.</p> <p>The River did not go above flood stage at Arkansas City, but at and below Greenville, MS, there was some flooding down to New Orleans with crests 0.5 to 5 feet over flood stage. Damage estimates are not yet available for the Greenville to New Orleans reach.</p>	0	N.A.
WEST GULF OF MEXICO DRAINAGE			
Southeast Texas Streams	Flooding continued into February along portions of the Sabine, Trinity, Neches,	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

FEBRUARY 1974

Basins
and
Streams

FLOOD EVENT

Lives
Lost

Preliminary Estimate
of Property Damage
(thousands of dollars)

WEST GULF OF MEXICO DRAINAGE-Con't

Angelina, Guadalupe and Navasota Rivers
from rains which occurred in January.
These streams were generally in recession
from crests which occurred in January.
Rains of 1 to 1.5 inches on the 16th and
21st caused moderate flooding on the
Navidad River at Gauado.

FLOOD STAGE DATA

(All dates in February unless otherwise specified)

FEBRUARY 1974

River and station	Flood stage	Above flood stages -dates		Crest	
		From-	To-	Stage	Date
ST. LAWRENCE DRAINAGE	FL			FL	
Grand River:					
Portland, Mich.	18	8	8	12.31	8
		9	9	12.00	9
Comstock Park, Mich.	12	Jan 24	7	13.46	Jan 26
Diamondale, Mich.	8	4	5	U	8
Clinton River:					
Mt. Clemens, Mich.	13	22	23	14.90	22
Middle River Rouge:					
Garden City, Mich.	7	21	22	8.57	21
Lower River Rouge:					
Inkster, Mich.	10	21	22	10.46	22
Raisin River:					
Monroe City, Mich.	8.5	6	15	11.00	7
St. Marys:					
Decater, Ind.	19	22	25	16.8	23
St. Josephs:					
Montpelier, Ohio	10	Jan 22	3	13.24	Jan 24
		24	27	11.6	25
Tiffin:					
Stryker, Ohio	11	U	3	U	U
		23	27	12.8	25
Maumee:					
Ft. Wayne, Ind.	19	22	24	15.8	23
Otter Creek:					
Center Rutland, Vt.	7	U	U	8.23	U
ATLANTIC SLOPE DRAINAGE					
Roanoke:					
Williamston, N. C.	10	1	25	#11.1	15
Neuse:					
Smithfield, N. C.	13	Jan 29	2	16.5	Jan 31
		19	20	#13.1	20
Goldsboro, N. C.	14	4	9	#15.3	6
		21	24	#14.3	23
Cape Fear:					
Huske Lock & Dam, N. C.	42	Jan 29	1	44.9	Jan 31
		10	10	42.0	10
Elizabethtown, N. C.	20	Jan 30	2	#23.0	Jan 31
		10	11	#20.5	11
Rocky:					
Norwood, N. C.	15	7	7	17.0	7
Lumber:					
Lumberton, N. C.	9	4	5	11.0	24
Little Pee Dee:					
Galivants Ferry, S. C.	9	9	1	9.6	25
Pee Dee:					
Pee Dee, S. C.	19	Jan 25	1	21.3	18
Broad:					
Blair, S. C.	14	4	4	14.3	4
		8	10	16.8	9
North Fork Edisto:					
Orangeburg, S. C.	8	18	18	8.0	18
Edisto:					
Givhans Ferry, S. C.	10	9	1	12.6	22
Savannah:					
Millhaven-Wade 2 SE, Ga.	15	Jan 20	5	15.4	Jan 22
		8	6	17.3	25
Clyo, Ga.	11	Jan 8	13	15.4	26
Ogeechee:					
Midville, Ga.	6	21	21	6.0	21
Scarboro, Ga.	8	10	28	9.4	21
Eden, Ga.	9	13	5	10.8	25
ATLANTIC SLOPE DRAINAGE-Cont'd					
Ocmulgee:					
Macon, Ga.	18	15	18	21.3	17
Oconee:					
Milledgeville, Ga.	20	8	8	20.6	8
		17	17	20.8	17
Dublin, Ga.	21	20	21	23.0	20
Mt. Vernon, Ga.	16	21	23	18.0	22
Altamaha:					
Charlotte, Ga.	15	15	Mar 2	18.0	27
EAST GULF OF MEXICO DRAINAGE					
Apalachicola:					
Blountstown, Fla.	15	Jan 28	Mar 2	19.7	11-13
Choctawhatchee:					
Newton, Ala.	19	8	8	19.0	8
Geneva, Ala.	23	9	9	#23.8	9
Caryville, Fla.	12	Jan 30	3	#12.8	Jan 31
		9	12	#13.8	10
Black Warrior:					
Warrior Lock & Dam, Ala.	30	Jan 30	1	#31.2	Jan 31
		18	20	31.0	19
Tombigbee:					
Fulton, Miss.	16	Jan 22	6	17.43	Jan 25
		16	19	16.21	17
Amory, Miss.	20	Jan 24	7	27.66	Jan 26
Aberdeen, Miss.	34	Jan 25	2	39.56	Jan 26
Columbus, Miss.	29	Jan 29	1	30.76	Jan 30
Gainesville, Ala.	36	Dec 27	10	P45.6	3
Demopolis Lock & Dam, Ala.	48	Dec 27	12	P45.1	2
		19	26	#50.6	21
Coffeeville Lock & Dam, Ala.	43	Dec 28	3	P47.8	15
				#48.8	24
Tallahala Creek:					
Laurel, Miss.	13	Jan 25	2	15.80	Jan 28
		20	22	14.50	21
Leaf:					
Beaumont, Miss.	20	Jan 26	2	21.98	Jan 27
Yockanookany:					
Ofahoma, Miss.	14	Jan 24	3	17.50	Jan 25
		17	24	15.4	U
Pearl:					
Edinburg, Miss.	20	Dec 27	4	P24.30	Jan 13
		8	25	22.20	20
Carthage, Miss.	17	Dec 26	6	P23.0	Jan 12
		18	28	20.7	24
Jackson, Miss.	18	Dec 25	Mar 5	P33.56	Jan 31
Monticello, Miss.	19	Dec 25	Mar 5	P27.92	Jan 30
Columbia, Miss.	17	Dec 27	15	P23.68	Jan 31
		19	5	19.66	27
Bogalusa, La.	15	Dec 23	Mar 11	P20.68	3
Pearl River, La.	12	Dec 28	Mar 12	P16.8	7
Upper Mississippi Basin					
Wapsipinicon River:					
De Witt, Iowa	10	4	6	10.4	5
Pecatonica River:					
Martintown, Wis.	11	Jan 21	5	16.3	Jan 31
Freeport, Ill.	13	Jan 28	3	14.3	Jan 31
Shirland, Ill.	12	Jan 24	7	P14.45	4
Kishwaukee River:					
Perryville, Ill.	10	Jan 22	12	11.53	Jan 27
Green River:					
Geneseo, Ill.	8	Jan 22	3	10.45	Jan 29

FLOOD STAGE DATA

(All dates in February unless otherwise specified)

FEBRUARY 1974

River and station	Flood stage	Above flood stages -dates		Crest	
		From--	To--	Stage	Date
<u>Upper Mississippi Basin-Cont'd</u>	<u>Ft</u>			<u>Ft</u>	
Rock River:					
Joslin, Ill.	12	Jan 22	5	16.8	Jan 29
Moline, Ill.	12	Jan 21	5	14.1 13.9	Jan 24 Jan 31
North Skunk River:					
Sigourney, Iowa	16	Jan 29	1	17.46	Jan 31
Skunk River:					
Brighton, Iowa	14	Jan 27	2	15.70	Jan 30
North Raccoon River:					
Jefferson, Iowa	10	19	22	15.0	20
Illinois River:					
Morris, Ill.	13	22	25	15.55	23
La Salle, Ill.	20	Jan 22	9	26.20 22.60	Jan 28 Jan 24
Peoria, Ill.	18	Jan 25 25	12 Mar	#23.2 #18.3	1 28
Havana, Ill.	14	Jan 23	1/	#17.6	Mar 16
Beardstown, Ill.	14	Jan 22	1/	19.6	Mar 18
Meredosia, Ill.	32	Jan 23	1/	#40.7	3
Meramec:					
Valley Park, Mo.	16	23	24	#17.7	24
Kaskaskia River:					
Carlyle, Ill.	21	Jan 26	1/	24.28	21
Big Muddy River:					
Murphysboro, Ill.	16	Jan 20 22	8 Mar	24.38 #21.94	Jan 25 27
Mississippi River:					
Hannibal, Mo.	16	Jan 29	1	#17.2	Jan 31
Louisiana, Mo.	15	Jan 29	1	#15.84	Jan 31
Clarksville, Dam 24 TW, Mo.	25	Jan 29	1	#25.9	Jan 31
Winfield, Dam 25 TW, Mo.	26	Jan 31	1	#26.2	1
Grafton, Ill.	18	Jan 29	4	#20.7	1
Alton, Dam 26 TW, Ill.	21	Jan 28	3	#23.2	Jan 30
Chester, Ill.	27	Jan 29	4	#28.94	Jan 31
Cape Girardeau, Mo.	32	Jan 24	6	#34.95	1
Thebes, Ill.	33	Jan 26	5	#35.35	Jan 31
<u>Missouri Basin</u>					
Blackwater River:					
Valley City, Mo.	22	19	20	25.10	19
Missouri River:					
Hermann, Mo.	21	Jan 23	1	#26.3	Jan 28
St. Charles, Mo.	25	Jan 27	1	#28.0	Jan 29
<u>Ohio Basin</u>					
Green:					
Livermore, Ky.	20	Jan 11	2	#26.10	Jan 18
Calhoun, Ky.	23	Jan 11	4	29.7	Jan 20
Embarrass:					
Ste. Marie, Ill.	18	Jan 20	1	20.45	Jan 23
Lawrenceville, Ill.	11	Jan 18 22	6 Mar	18.51 15.25	Jan 25 Mar 16
White:					
Spencer, Ind.	14	Jan 20	1	19.32	Jan 23
Elliston, Ind.	18	Jan 20	3	24.10	Jan 24
Edwardsport, Ind.	15	Jan 20	5	21.1	Jan 27
Petersburg, Ind.	16	Jan 21	6	22.02	Jan 27
Hazelton, Ind.	16	Jan 22	7	23.1	Jan 28
Little Wabash:					
Wilcox, Ill.	16	Jan 19 22	2 Mar	#21.75 #19.96	Jan 23 27

River and station	Flood stage	Above flood stages -dates		Crest	
		From--	To--	Stage	Date
<u>Ohio Basin-Cont'd</u>	<u>Ft</u>			<u>Ft</u>	
Little Wabash-Continued:					
Carmi, Ill.	20	Jan 23	6	#29.72	Jan 31
Wabash:					
Lafayette, Ind.	11	Jan 20 13 22	10 17 26	20.58 11.78 15.61	Jan 22 15 23
Covington, Ind.	16	Jan 20 22	8 27	25.02 19.49	Jan 23 24
Montezuma, Ind.	14	Jan 19 21	13 Mar	27.55 18.98	Jan 24 25
Clinton, Ind.	18	Jan 18	11	27.00	Jan 24
Terre Haute, Ind.	14	Jan 19 22	12 Mar	22.8 16.7	Jan 25 26
Hutsonville, Ill.	20	Jan 22	8	25.5	Jan 27
Riverton, Ind.	18	Jan 22	8	22.10	Jan 28
Vincennes, Ind.	16	Jan 22	10	24.06	Jan 29
Mt. Carmel, Ill.	17	Jan 22	9	25.56	Jan 30
New Harmony, Ind.	15	Jan 24	9	19.1	Jan 31
French Broad:					
Rosman, N. C.	8	22	22	9.01	22
South Chickamauga Creek:					
Chickamauga, Tenn.	10	16	18	11.60	17
Tennessee:					
Whitesburg, Ala.	560 MSL	Dec 26 15	13 26	568.76 563.87	Dec 28 19
Florence, Ala.	419 MSL	2	6	420.08	4
Gilbertville, Ky.	320 MSL	Dec 27 17	14 28	337.92 322.90	Jan 16 22
Ohio:					
Newburgh, Dam 47, Ind.	38	Jan 12	3	#45.8	Jan 18
Cypress, Dam 48, Ind.	38	Jan 13	3	44.8	Jan 18
Mt. Vernon, Ind.	35	Jan 13	5	#42.5	Jan 19
Dam No. 49, Ky.	37	Jan 14	6	#44.1	Jan 20
Shawneetown, Ill.	33	Jan 1	9	44.5	Jan 20
Dam No. 50, Ky.	34	Dec 31	10	#48.0 #44.6	Jan 21 3
Cairo, Ill.	40	Dec 28 23	15 Mar	#52.19 #42.14	1 26
<u>White Basin</u>					
Cache:					
Patterson, Ark.	7	Nov 26	1/	P 9.4 8.6	Jan 12 25
Black:					
Pocahontas, Ark.	17	24	Mar	24	19.08
Black Rock, Ark.	14	Jan 21 21	9 Mar	18.4 21.5	Jan 27 23
White:					
Georgetown, Ark.	21	Jan 29 22	8 Mar	21.4 21.7	Jan 31 2
Clarendon, Ark.	26	Dec 1	1/	P28.0	4
St. Charles, Ark.	25	Dec 5	1/	27.5	9
<u>Red Basin</u>					
Sulphur:					
Naples, Tex.	22	Jan 14	Mar	6	27.43
Ouachita:					
Monroe, La.	40	Jan 13	Mar	11	45.2
Columbia Lock & Dam, La.	65	Jan 25	Mar	2	67.0
Black:					
Jonesville Lock & Dam, La.	52	Jan 24	Mar	9	53.6
Acme, La.	48	Jan 26	28	50.1	4-8

FLOOD STAGE DATA

(All dates in February unless otherwise specified)

FEBRUARY 1974

River and station	Flood stage	Above flood stages -dates		Crest	
		From-	To-	Stage	Date
<u>Lower Mississippi Basin</u>	<u>Ft</u>			<u>Ft</u>	
St. Francis:					
Fisk, Mo.	20	24	Mar	22.17	26
St. Francis, Ark.	18 Jan	24	Mar	19.87	Jan 29
		23	Mar	19.09	Mar 1
Tallahatchie:					
Swan Lake, Miss.	26 Dec	27	Mar	30.25	Jan 15
Yazoo:					
Greenwood, Miss.	35 Jan	24		36.28	Jan 29
Yazoo City, Miss.	29 Dec	25	Mar	34.36	16
Big Black:					
West, Miss.	12 Dec	25	Mar	20.70	Jan 29
Bovina, Miss.	28 Dec	26		38.55	Jan 11
		15		34.10	21
Mississippi:					
New Madrid, Mo.	34 Jan	12	14	40.5	1
Caruthersville, Mo.	32 Jan	10	16	39.3	2-5
Memphis, Tenn.	34 Jan	26	13	36.4	6
Helena, Ark.	44	8	8	44.0	8
Greenville, Miss.	48	4	15	48.6	9
Vicksburg, Miss.	43 Jan	28	21	45.4	10
Natchez, Miss.	48 Jan	25	24	50.9	10
Red River Landing, La.	45 Jan	18	Mar	50.2	17
Baton Rouge, La.	35 Jan	23	27	39.0	15
Donaldsonville, La.	28 Jan	26	26	30.7	16
Reserve, La.	22	2	23	23.5	10-13, 18
New Orleans, La.	17	4	22	17.53	16
Atchafalaya:					
Morgan City, La.	7 Dec	13		1/ P 9.3	19
WEST GULF OF MEXICO DRAINAGE					
Mermentau:					
Mermentau, La.	5 Jan	20	11	7.7	Jan 28
Calcasieu:					
Houston, La.	12 Jan	19	4	16.8	Jan 22
		10	12	12.8	11
		16	25	13.8	23
Kinder, La.	16 Jan	21	4	18.8	Jan 22
Sabine:					
Mineola, Tex.	14 Jan	13	5	17.39	Jan 22
Gladewater, Tex.	26 Jan	19	6	31.81	Jan 29
WEST GULF OF MEXICO DRAINAGE (Continued)					
Sabine-Continued:					
Longview, Tex.	25 Jan	21	9	29.24	Jan 30
Logansport, Tex.	28 Jan	24	4	31.35	Jan 28
Bon Weir, Tex.	17	U	U	23.57	Jan 30
Dewyville, Tex.	14 Dec	7	28	17.72	1
Orange, Tex.	4	U	7	4.4	1,4
Attoyac Bayou:					
Chireno, Tex. (near)	14 Jan	7	5	20.65	Jan 25
		26	28	15.92	26
Angelina:					
Lufkin, Tex. (near)	8	U	B	1/	13.36 Jan 29
Neches:					
Alto, Tex. (near)	16 Jan	24	10	18.60	Jan 29
Diboll, Tex. (near)	10 Oct	13	1/	15.43	Jan 27
Rockland, Tex. (near)	22 Jan	27	2	24.94	Jan 29
Weiss Bluff, Tex.	15 Jan	19	7	16.9	Jan 22
Lawsons Crossing, Tex.	4 Jan	18	10	8.4	Jan 23
Trinity:					
Liberty, Tex.	24 Jan	20	6	28.5	Jan 30, 31
Moss Bluff, Tex.	4 Jan	16	11	8.45	Jan 31-1
Navasota:					
Bryan, Tex. (near)	12 Jan	20	4	13.95	Jan 27
		24	26	12.13	25
Navidad:					
Ganado, Tex. (near)	21	19	22	26.1	21
		25	28	26.6	28
Guadalupe:					
Dupont, Tex.	20 Jan	19	5	25.3	Jan 30
PACIFIC COAST DRAINAGE					
South Fork Coquille:					
Myrtle Point, Ore.	35	28	Mar	36.80	28
Wilson:					
Tillamook, Ore.	11	1	1	11.1	1
Nehalem:					
Foss, Ore.	13	1	1	13.4	1

Average monthly values

23

Average monthly value

FEBRUARY 1974

24

Average monthly values

[illegible]

HILO, HAWAII 1016 MB										HUNTINGTON H. VA. 986 MB										* INTERNATIONAL FALLS, MINN. 973 MB										JACKSON, MISS. 1006 MB										JOHN F. KENNEDY INT. AP NY 1014 MB									
SURFACE	28	10	19.2	16.5	24	1.9	28	246	+1	-4.4	27	1.0	28	359	-17.2	-22.4	01	+6	28	100	6.5	3.2	21	1.5	28	5	-1.7	-10.0	33	3.9																			
1000	28	150	20.7	16.6	22	1.5													28	164	6.7	2.2	24	1.3	26	131	-3.1	-10.1	33	3.1																			
950	28	593	17.7	14.9	13	2.9	28	975	+2	-5.6	25	3.8	28	536	-14.5	-16.7	35	+6	28	572	7.6		0.24	4.3	26	525	-4.2	-10.3	37	4.6																			
900	28	1,034	14.4	12.3	17	4.0	28	945	-1.3	-6.4	26	7.0	28	947	-13.5	-17.2	37	2.4	28	1,017	5.9	-2.8	26	6.9	28	952	-4.7	-11.9	39	5.6																			
850	28	1,536	11.1	9.5	11	5.0	28	1,425	-8.5	-9.7	27	11.8	28	1,361	-10.1	-17.1	31	5.8	28	1,464	9.2	-1.4	26	14.0	28	1,401	-1.2	-9.9	27	5.8																			
800	28	2,039	8.2	5.6	10	3.8	28	1,909	-4.0	-12.6	27	11.8	28	1,844	-13.7	-18.3	32	6.8	28	1,977	3.3	-10.9	28	11.0	28	1,874	-7.5	-14.0	27	9.5																			
750	28	2,572	6.6	-3.9	11	3.8	28	2,417	-5.7	-15.5	28	12.9	28	2,334	-14.9	-20.4	32	8.5	28	2,498	1.3	-15.5	27	13.3	28	2,375	-9.1	-17.8	28	12.6																			
700	28	3,136	4.7	-10.8	11	4.0	28	2,956	-8.2	-18.1	28	14.8	28	2,854	-16.9	-22.5	31	10.0	28	3,051	-1.3	-18.0	27	15.4	28	2,907	-11.4	-21.3	27	15.3																			
650	28	3,737	1.7	-13.7	10	3.6	28	3,528	-11.3	-21.1	28	17.9	28	3,408	-19.5	-25.4	31	11.9	28	3,639	-8.0	-19.7	27	17.6	28	3,473	-14.0	-24.5	27	17.6																			
600	28	4,378	-2.1	-17.8	10	4.0	28	4,139	-14.6	-24.0	27	20.5	28	3,999	-22.8	-28.3	31	14.2	28	4,265	-8.0	-23.3	27	20.1	28	4,077	-17.5	-28.7	27	19.6																			
550	28	5,063	-6.3	-23.7	10	2.2	28	4,792	-18.7	-28.4	27	22.9	28	4,633	-26.4	-32.1	31	16.6	28	4,936	-12.4	-28.0	27	23.8	28	4,724	-21.3	-33.3	27	20.9																			
500	28	5,803	-10.9	-30.6	02	1.4	28	5,497	-23.0	-33.5	27	25.0	28	5,281	-30.1	-37.1	31	18.5	28	5,657	-17.0	-31.9	27	26.3	28	5,421	-25.6	-36.7	27	22.4																			
450	28	6,604	-16.3	-33.4	34	2.8	28	6,261	-28.1	-37.3	27	28.2	28	6,054	-36.2	-41.0	31	19.2	28	6,438	-22.7	-36.6	27	27.6	28	6,178	-30.3	-40.3	27	25.3																			
400	28	7,478	-22.7	-38.3	32	5.4	28	7,096	-34.1	-42.2	27	32.2	28	6,860	-42.6	-41.9	31	21.7	27	7,291	-29.0	-42.5	27	30.8	28	7,007	-35.7	-43.6	27	29.2																			
350	28	8,447	-29.6	-43.8	32	9.2	28	8,033	-40.1	-46.0	27	36.1	28	7,753	-48.6		30	23.0	26	8,242	-35.9	-46.3	27	35.1	26	7,917	-41.7	-45.5	26	31.0																			
300	28	9,527	-37.2	-50.3	31	15.1	27	9,067	-46.6		27	40.6	28	8,751	-53.9		30	25.7	26	9,293	-46.3	-50.6	27	38.9	26	8,945	-47.6		27	34.3																			
250	28	10,705	-45.7		30	20.0	26	10,266	-53.0		27	45.8	28	9,918	-54.8		30	25.9	26	10,497	-51.7		27	45.4	26	10,136	-52.6		26	35.4																			
200	28	12,225	-53.7		30	25.0	26	11,787	-60.7		27	51.0	28	11,348	-63.7		30	25.9	26	11,886	-51.7	-55.4	27	45.8	26	11,521	-54.1		26	38.1																			
175	28	13,305	-60.1		29	25.1	26	12,860	-52.9		27	38.6	28	12,222	-50.9		30	23.5	20	12,803	-50.6		27	44.7	26	12,450	-51.7		26	34.5																			
150	28	14,014	-65.3		30	16.1	26	13,552	-54.4		27	34.1	28	13,226	-50.9		29	22.8	20	13,776	-50.9		27	40.2	26	13,450	-52.4		26	30.2																			
125	28	15,107	-71.3		31	14.0	26	14,714	-56.7		27	31.9	28	14,410	-51.9		29	22.5	19	14,907	-62.4		27	34.7	22	14,624	-54.6		26	27.1																			
100	28	16,410	-75.7		32	7.7	26	16,117	-58.8		27	25.1	28	15,853	-52.6		30	20.6	18	16,267	-66.1		27	24.8	22	16,047	-56.2		26	22.2																			
80	27	17,699	-74.5		05	2.9	24	17,516	-59.2		27	15.8	27	17,304	-53.3		30	18.2	16	17,623	-60.7		27	17.2	21	17,464	-56.9		24	19.9																			
60	27	18,484	-70.5		05	0.9	24	18,153	-56.9		27	15.7	27	18,163	-53.8		30	16.6	16	18,432	-65.7		28	12.1	21	18,311	-56.5		27	19.2																			
40	27	19,400	-67.9		08	1.4	24	19,221	-58.2		28	11.4	27	19,153	-53.9		30	16.1	15	19,427	-62.9		27	11.8	21	19,288	-56.9		27	18.8																			
50	24	20,511	-64.7		09	2.6	22	20,470	-57.7		28	9.8	26	20,323	-53.9		30	15.3	15	20,505	-61.5		30	3.0	20	20,458	-55.7		27	10.6																			
40	23	21,891	-59.3		09	3.1	21	21,877	-56.3		29	8.1	25	21,775	-54.0		31	19.1	14	21,903	-58.6		06	2.6	19	21,877	-55.0		29	8.6																			
20	22	23,712	-55.5		08	2.6	20	23,715	-54.1		29	7.0	25	23,620	-54.2		32	13.7	14	23,723	-55.7		04	2.7	18	23,730	-54.2		30	6.3																			
5	27	24,877	-55.5		07	4.0	24	24,878	-53.2		30	6.4	25	24,790	-54.0		32	12.9	14	24,889	-54.1		06	3.4	16	24,901	-53.5																						
10	22	26,315	-52.0		09	3.9	14	26,351	-52.1		32	5.6	25	26,222	-53.9		32	13.5	12	26,331	-52.9		07	7.2	14	26,316	-52.7																						
5	12	28,186	-49.6		12	3.4	11	28,220	-49.8		30	3.6	25	28,138	-50.4		33	12.5	10	28,177	-50.9		06	6.8	9	28,123	-52.1																						
7	12	30,893	-44.9		13	1.7							18	30,807	-47.2		33	15.5	10	30,842	-46.8																												
7													14	33,167	-44.6																																		
5													6	35,844	-33.3																																		

JOHNSON IS., PACIFIC AREA 1013 MB										KEY WEST, FLA. 1017 MB										KOROR, CARLINE IS. 1005 MB										KWAJALEIN MARSHAL IS. 1009 MB										LAKE CHARLES, LA. 1018 MB									
SURFACE	28	3	25.0	20.3	09	7.4	28	3	19.9	15.3	06	2.1	26	30	27.3	24.2	07	3.3	28	4	26.9	23.1	07	7.2	28	5	9.7	7.2	05	.2																			
1000	28	119	23.6	19.9	09	7.7	28	144	19.4	13.8	06	2.6	26	75	26.8	24.2	07	4.3	28	80	26.3	22.5	07	8.2	28	149	11.6	5.2	21	1.0																			
950	28	56	20.0	17.7	09	8.6	28	584	16.2	11.5	08	1.9	26	529	23.7	21.5	08	7.7	28	531	27.6	20.2	07	10.6	28	577	10.0	1.0	24	4.4																			
900	28	1,031	16.7	13.7	09	8.5	28	1,042	13.4	9.1	17	.3	26	1,001	20.6	17.7	08	8.5	28	1,001	19.4	16.8	08	10.5	28	1,025	8.1	-1.8	26	5.7																			
850	28	1,516	13.6	9.5	09	7.8	28	1,522	11.4	2.1	25	1.8	26	1,494	17.9	13.1	08	8.2	28	1,492	16.9	12.4	08	9.7	28	1,496	7.1	-6.7	27	7.0																			
800	28	2,026	11.1	6.0	09	7.4	28	2,027	6.0	-3.4	26	2.8	26	2,012	9.5	5.8	09	8.5	28	2,012	14.1	7.5	08	8.4	28	1,996	5.1	-9.5	27	9.0																			
750	28	2,563	8.6	-2.0	09	6.4	28	2,561	7.5	-9.3	25	4.5	26	2,558	12.8	5.7	09	8.5	28	2,553	12.4	2.2	09	7.2	28	2,519	3.7	-14.7	27	11.1																			
700	28	3,131	6.4	-9.0	08	4.9	28	3,126	5.5	-13.3	26	5.8	26	3,135	9.5	2.3	09	8.4	28	3,129	9.4	-2.4	09	6.4	28	3,077	1.3	-18.9	27	13.5																			
650	28	3,736	3.7	-13.0	07	3.7	28	3,728	2.4	-17.7	25	7.4	26	3,748	6.4	-1.3	09	9.0	28	3,740	6.3	-8.5	09	5.4	28	3,669	-2.3	-19.4	27	14.6																			
600	28	4,382	3.3	-17.2	07	2.2	28	4,370	-1.3	-21.2	27	9.6	26	4,401	2.8	-6.7	09	9.2	28	4,393	2.8	-13.2	08	5.1	28	4,299	-6.6	-22.8	27	15.9																			
550	28	4,974	4.3	-21.6	07	1.2	28	4,964	-2.4	-24.3	27	11.7	26	4,993	1.0	-11.7	08	9.2	28	4,981	1.0	-17.8	08	4.7	28	4,896	-10.0	-27.7	27	17.0																			
500	28	5,619	-9.1	-26.6	28	.2	28	5,598	-10.9	-27.9	27	14.2	26	5,656	3.3	-1.3	10	10.1	28	5,647	-1.1	-22.1	07	5.1	28	5,659	-12.0	-31.8	27	21.1																			
450	28	6,626	-14.4	-29.5	34	1.6	27	6,598	-16.5	-31.9	27	17.9	26	6,676	-10.0	-19.8	10	9.2	28	6,667	-10.3	-28.9	06	6.3	28	6,485	-21.2	-36.3	27	23.1																			
400	28	7,651	-20.0	-34.4	31	2.8	27	7,473	-23.0	-37.5	27	20.1	26	7,676	-15.3	-25.5	10	9.5	28	7,656	-16.0	-34.5	06	5.6	28	7,344	-27.3	-40.9	27	28.5																			
350	28	8,490	-26.6	-40.5	31	6.0	27	8,430	-30.6	-43.5	27	20.7	26	8,575	-22.1	-32.8	10	9.3	28	8,557	-22.7	-40.4	03	4.2	28	8,295	-34.0	-46.0	26	33.5																			
300	28	9,593	-34.3	-47.9	30	1.2	27	9,513	-38.7	-52.0	27	22.9	26	9,686	-30.7	-40.5	10	8.1	28	9,668	-31.4	-40.4	34	3.2	28	9,354	-42.1	-50.0	27	36.4																			
250	28	10,835	-41.8	-51.8	30	2.2	27	10,753	-43.9	-57.0	27	27.3	26	10,864	-41.4	-55.2	30	7.7	28	10,846	-42.6	-55.2	30	7.7	28	10,505	-50.0	-58.4	27	41.7																			
200	28	12,299	-54.0	-59.3	31	13.2	26	12,202	-54.1	-68.1	27	32.1	26	12,431	-53.4	-64.5	11	9.8	28	12,404	-54.1	-65.6	25	2.0	28	12,001	-55.4	-63.6	26	44.6																			
175	28	13,146	-59.6	-63.9	31	14.9	26	13,050	-58.3	-73.0	27	31.9	26	13,277	-60.3	-71.0	11	10.9	28	13,247	-61.3	-72.7	27	2.3	28	12,851	-57.0	-65.0	26	40.0																			
150	28	14,096	-65.9	-68.8	32	13.0	26	14,010	-63.0	-78.1	27	28.3	26	14,220	-68.1	-79.0	11	12.3	28	14,186	-68.9	-79.8	30	1.5	28	13,819	-60.5	-68.0	26	36.2																			
125	28	15,184	-72.7	-73.1	31	9.7	26	15,116	-68.8	-84.0	27	24.2	26	15,293	-76.5	-87.5	11	13.9	28	15,254	-77.2	-88.0	27	2.3	27	14,943	-65.0	-72.0	24	32.9																			
100	28	16,473	-77.8	-78.8	30	6.0	26	16,434	-73.8	-88.8	26	19.5	26	16,591	-82.8	-93.8	11	17.5	28	16,522	-83.4	-94.4	08	5.4	28	16,290	-68.5	-75.0	26	25.8																			
75	27	17,744	-78.3	-79.3	30	2.7	24	17,728	-75.2	-92.6	26	11.9	26	17,813	-77.0	-92.0	10	9.0	28	17,770	-78.0	-93.0	27	2.0	27	17,623	-60.0	-72.0	27	15.3																			
70	27	18,514	-73.7	-74.7	06	2.1	24	18,505	-73.4	-88.4	26	7.2	26	18,590	-72.0	-87.0	31	1.5	20	18,539	-73.9	-88.9	27	2.5	26	18,423	-65.5	-72.0	27	12.9																			
60	25	19,426	-68.8	-69.8	08	2.5	24	19,414	-69.9	-84.9	26	4.5	25	19,507	-68.1	-83.1	28	5.9	20	19,449	-70.0	-85.0	26	6.3	25	19,354	-60.4	-67.0	26	9.3																			
50	26	20,528	-66.9	-67.9	12	2.6	24	20,516	-68.8	-83.8	26	2.5	25	20,612	-64.5	-79.5	27	6.7	20	20,542	-66.8	-82.8	26	7.1	23	20,487	-61.1	-67.1	35	8.8																			
40	26	21,906	-59.9	-60.9	11	2.6	24	21,899	-59.7	-80.7	04	2.0	24	21,984	-61.6	-76.6	26	3.8	19	21,901	-60.8	-75.8	26	1.9	23	21,881	-58.7	-64.7	09	2.0																			
30	26	23,725	-53.9	-54.9	13	2.3	24	23,715	-53.8	-74.7	04	2.0	24	23,800	-55.8	-70.8	26	3.8	19	23,726	-54.0	-69.0	26	4.9	24	23,699	-51.0	-57.0	49	4.0																			
25	24	24,892	-54.0	-55.0	08	7.4	22	24,891	-53.2	-74.2	06	2.6	24	24,951	-55.2	-70.2	10	1.4	19	24,848	-56.4	-71.4	08	16.7	27	24,863	-54.2	-60.2	08	7.1																			
20	24	26,333	-51.5	-52.5	08	9.1	21	26,330	-50.9	-75.9	04	.8	24	26,384	-52.7	-67.7	09	22.6	18	26,275	-52.8	-67.8	09	24.1	25	26,306	-51.7	-57.7	08	5.8																			
15	23	28,214	-48.6	-49.6	09	11.4	17	28,222	-48.1	-73.1	13	1.9	20	28,263	-48.5	-63.5	09	25.5	16	28,154	-48.8	-63.8	09	25.0	19	28,185	-49.2	-55.2	09	8.0																			
10	18	30,909	-43.7	-44.7	10	8.7	9	30,944	-43.8	-68.8	19	1.7	30	30,956	-44.5	-59.5	09	27.5	14	30,855	-48.8	-63.8	09	26.1	19	30,885	-44.0	-50.0	09	8.0																			

Average monthly values

FEBRUARY 1974

MONNETT, MO. 963 MB										MONTGOMERY, ALA. 1012 MB										NASHVILLE, TENN. 995 MB										* NOME, ALASKA 1013 MB										NORTH PLATTE, NEBR. 916 MB									
5	100C	28	438	1.0	-2.6	23	.7	28	57	5.6	2.7	26	1.1	29	180	2.1	-1.5	22	1.0	27	5	-23.0	-27.7	03	1.5	28	847	-4.8	-9.2	33	1.7																		
930	27	551	1.7	-3.5	23	2.4	28	575	6.8	-6.6	27	4.5	29	554	2.6	-3.0	24	5.1	27	478	-19.8	-25.0	04	2.3																									
900	28	984	2.4	-6.9	26	7.0	28	1019	5.4	-4.2	28	6.5	28	991	1.3	-6.2	25	8.5	27	879	-19.3	-24.3	03	3.8	28	985	-2.0	-8.2	32	5																			
850	28	1446	2.1	-10.9	28	8.0	28	1485	4.2	-7.5	28	9.2	28	1490	1.1	-10.2	26	9.6	27	1305	-18.7	-23.9	07	5.3	28	1442	0.0	-10.4	32	8.8																			
800	28	1933	-1	-13.0	28	9.7	28	1977	2.6	-12.7	27	10.9	28	1935	-1.5	-12.5	27	10.5	27	1756	-20.0	-25.0	01	5.2	28	1926	-1.6	-13.7	32	5.6																			
750	28	2448	-2.8	-17.0	28	9.9	28	2498	0.0	-15.8	28	12.9	28	2444	-2	-15.3	27	12.1	27	2423	-23.2	-27.9	05	5.2	28	2431	-4.0	-16.2	31	11.0																			
700	28	2991	-5.6	-19.3	29	11.1	24	3049	-1.9	-18.4	27	15.3	28	2989	-6.8	-18.0	27	14.3	27	2739	-24.2	-30.3	36	5.0	28	2977	-8.0	-19.0	31	12.6																			
650	28	3569	-9.2	-21.5	28	12.5	28	3636	-4.9	-21.2	27	18.2	28	3565	-9.5	-21.3	27	17.4	27	3277	-26.7	-34.1	36	4.5	28	3550	-11.4	-22.0	31	13.3																			
600	28	4183	-13.3	-25.2	28	14.6	28	4261	-8.7	-24.3	27	19.7	28	4179	-13.0	-25.0	27	19.9	27	3851	-29.8	-37.4	34	4.2	28	4159	-15.3	-26.0	30	14.0																			
550	28	4841	-17.5	-29.6	28	17.0	28	4929	-13.0	-27.8	27	22.4	28	4837	-16.8	-30.0	27	22.9	27	4647	-33.6	-40.9	34	4.8	28	4811	-19.7	-30.5	30	14.6																			
500	28	5548	-22.4	-34.6	28	19.4	28	5649	-17.9	-31.4	27	24.7	28	5546	-21.6	-34.6	26	25.9	27	5130	-37.6	-43.4	33	5.5	28	5512	-24.6	-35.4	30	16.0																			
450	28	6313	-28.2	-39.3	28	21.3	28	6429	-23.1	-34.8	27	28.8	28	6315	-26.7	-38.9	27	28.9	27	5850	-41.9	-45.9	32	6.2	28	6270	-30.2	-38.9	31	17.3																			
400	28	7147	-34.4	-44.9	27	24.7	28	7282	-29.0	-41.2	27	28.4	27	7152	-32.5	-43.5	27	32.9	27	6640	-46.9	-50.9	32	6.9	28	7098	-36.8	-44.1	30	18.5																			
350	28	8072	-40.4	-45.1	27	29.4	28	8226	-35.8	-46.2	27	32.5	27	8063	-39.0	-46.8	26	36.8	27	7519	-51.0	-55.0	30	7.3	28	8012	-43.2	-50.3	30	19.5																			
300	28	9106	-46.6		27	33.7	28	9278	-43.4		27	37.2	27	9122	-45.6		27	39.1	27	8512	-54.0		29	7.3	28	9032	-49.7		27	27.4																			
250	28	10299	-52.4		27	35.3	28	10483	-51.2		27	41.3	27	10320	-51.9		27	39.0	27	9682	-53.2		28	9.1	28	10211	-54.8		29	24.4																			
200	27	11736	-54.3		27	35.9	27	11917	-55.0		27	42.0	26	11756	-54.0		27	39.2	27	11132	-49.9		28	11.7	28	11634	-54.0		28	26.1																			
150	28	12591	-54.0		27	34.9	27	12760	-56.4		28	41.4	26	12614	-53.8		27	38.9	27	12208	-48.7		27	13.7	28	12494	-52.7		28	26.0																			
100	26	13578	-55.2		27	32.2	26	13478	-58.8		27	37.0	26	13601	-55.7		27	37.0	27	13023	-48.1		27	15.6	27	13495	-53.1		28	27.8																			
125	26	14735	-57.9		27	26.2	26	14873	-62.5		27	32.0	26	14755	-58.6		27	30.0	27	14627	-47.6		26	17.3	27	14666	-55.1		28	20.4																			
100	25	16134	-60.4		28	19.7	26	16236	-65.7		27	24.8	26	16146	-61.5		27	23.3	27	15703	-47.2		26	19.7	27	16083	-57.3		28	16.6																			
8	25	17521	-61.0		28	15.2	26	17590	-66.6		27	17.5	26	17529	-62.0		27	18.5	27	17178	-47.6		25	21.2	25	17492	-57.0		29	10.5																			
7	26	18352	-60.9		28	10.2	26	18401	-65.1		27	13.1	26	18356	-60.9		28	13.9	27	18061	-47.6		26	23.3	25	18337	-57.0		29	8.0																			
6	26	19315	-59.7		28	7.4	26	19345	-63.4		27	8.5	26	19315	-60.5		28	9.5	27	19079	-47.9		26	24.2	25	19315	-56.1		31	5.4																			
5	27	20461	-58.7		28	5.1	27	20478	-60.8		27	5.2	27	20461	-59.1		28	5.2	27	20478	-47.8		26	24.6	24	20473	-56.1		33	5.5																			
4	26	21859	-57.5		36	3	21	21868	-58.4		31	1.4	26	21861	-57.2		31	2.8	27	21751	-49.0		26	25.7	24	21895	-55.3		36	4.9																			
3	10	23690	-55.3		04	3.8	24	23694	-54.7		04	1.3	25	23684	-55.1		33	3.7	27	23638	-49.5		26	28.1	23	23733	-54.6		02	5.3																			
25	17	24848	-54.7		01	3.8	24	24863	-53.7		04	1.6	25	24851	-54.3		33	3.3	26	24635	-49.2		26	29.6	22	24902	-53.4		02	6.1																			
20	14	26265	-52.1		03	3	24	26265	-51.2		06	2.6	23	26291	-52.5		36	2.7	26	26820	-48.5		26	29.1	22	26341	-52.7		03	6.8																			
19	11	28167	-49.4		07	4.1	22	28188	-49.6		05	2.6	21	28168	-50.2		34	3.7	23	28824	-46.2		26	30.3	20	28203	-50.6		04	7.9																			
17	5	30178	-47.2				20	30884	-46.1			14	30859	-46.7		32	1.2	17	30935	-45.3			26	27.6	11	30872	-48.1																						

Average monthly values

[illegible]

	PONAPE, CAROLINE IS. 1003 MB										PORTLAND, MAINE 1011 MB										* GUILLOTAYE, WASH. 1016 MB										RAPID CITY, S. DAK. 903 MB										ST. CLOUD, MINN. 979 MB									
SURFACE	28	39	28.1	23.8	07	3.7	28	20	-7.9	-14.4	33	2.3	28	58	3.9	2.7	17	1.2	28	966	-3.1	-6.9	33	3.0	28	31.8	-14.1	-16.8	31	1.3																				
1000	28	66	26.9	22.7	08	4.2	26	119	-8.1	-15.9	33	3.0	21	177	3.8	2.6	19	2.4																																
950	28	519	23.4	20.8	08	7.8	28	503	-8.1	-15.7	32	4.5	28	554	1.8		3	21	5.8																															
900	28	990	20.1	17.4	09	9.7	28	922	-9.3	-17.1	31	5.3	24	989	-2	-3.8	22	7.3	17	1.027	-4.1	-8.9	33	3.8	28	962	-9.9	-13.2	32	3.0																				
850	28	1482	17.2	12.8	09	8.8	28	1363	-10.4	-17.7	29	7.4	28	1465	-2.7	-7.7	23	8.4	28	1443	-4	-10.3	32	8.6	28	1405	-9.4	-15.2	32	6.0																				
800	28	1393	15.1	9.0	07	7.4	28	1081	-19.1	-26.1	27	9.6	28	1294	-4.7	-10.9	24	9.5	28	1431	-3.0	-13.3	32	10.8	28	1373	-10.1	-16.8	31	7.8																				
750	28	2545	12.9	2.2	09	7.0	28	2323	-12.9	-20.2	28	12.7	28	2429	-7.5	-15.9	25	9.5	28	2436	-4.0	-15.2	32	11.9	28	2368	-11.4	-19.3	31	9.6																				
700	28	3122	4.7	-1.4	09	7.4	28	2647	-15.5	-24.6	27	14.7	28	2963	-11.0	-19.8	26	11.2	28	2970	-10.0	-18.8	32	12.5	28	2897	-13.6	-22.1	31	12.1																				
650	28	3734	6.5	-5.5	09	7.6	28	3404	-17.8	-26.4	27	16.9	28	3529	-13.8	-21.6	26	12.4	28	3538	-13.2	-22.4	31	12.6	28	3457	-16.4	-24.9	31	14.6																				
600	28	4387	2.7	-8.3	08	8.4	28	3999	-20.7	-29.7	27	19.9	28	4133	-17.7	-24.3	26	14.0	28	4144	-16.9	-26.1	30	13.7	28	4055	-20.1	-28.1	31	16.4																				
550	28	5087	-1.1	-11.4	05	8.1	28	4638	-24.4	-32.5	27	23.1	28	4779	-21.9	-29.0	25	15.9	28	4792	-21.2	-30.2	30	15.3	28	4695	-24.4	-32.9	31	18.2																				
500	28	5862	-5.5	-16.0	08	8.9	28	5326	-28.8	-38.1	27	23.3	28	5474	-26.7	-34.6	25	17.0	28	5468	-26.1	-36.6	30	16.8	28	5383	-29.4	-38.4	30	19.1																				
450	28	6563	-9.4	-23.1	08	9.5	28	6073	-33.7	-41.5	27	26.7	28	6242	-32.0	-38.6	25	17.6	28	6242	-31.9	-39.7	30	17.9	28	6128	-34.2	-42.0	30	21.3																				
400	28	7504	-15.3	-29.3	07	9.5	28	6899	-39.2	-45.4	27	28.8	28	7048	-37.8	-43.9	26	20.0	28	7063	-38.3	-44.2	30	19.0	28	6942	-40.3	-45.3	30	23.1																				
350	28	8562	-22.1	-34.8	07	6.9	28	7496	-44.6		26	32.8	28	7959	-44.8		26	21.5	28	7970	-45.4		30	19.9	28	7843	-46.6		29	24.5																				
300	28	9675	-30.5	-41.5	07	4.1	28	8814	-49.5		26	37.9	28	8975	-50.7		27	23.6	28	8980	-51.9		30	22.4	28	8847	-53.1		29	27.2																				
250	28	10944	-40.6	-50.4	09	2.2	28	10000	-52.7		26	38.1	28	10151	-54.6		28	23.3	28	10151	-55.6		30	24.4	28	10016	-54.7		29	27.2																				
200	28	12424	-52.9		16	2.8	28	11444	-50.9		26	31.6	28	11580	-53.4		28	18.6	28	11574	-54.4		29	23.1	27	11454	-52.5		29	25.5																				
150	28	13271	-59.9		14	2.7	28	12317	-50.6		26	29.0	28	12416	-52.7		28	17.3	28	12433	-52.4		29	22.9	27	12319	-51.3		29	24.9																				
100	28	14216	-67.8		3	1.28	28	13320	-51.7		26	26.8	28	13439	-52.7		28	17.4	28	13429	-52.9		29	20.8	27	13321	-51.7		29	24.3																				
125	28	15291	-76.0		08	5.8	27	14504	-53.0		26	25.7	28	14617	-52.8		28	16.2	28	14604	-53.8		29	19.8	27	14500	-53.0		29	21.9																				
100	28	16452	-83.5		09	10.2	27	15936	-54.6		26	22.3	27	16057	-53.7		29	12.7	28	16032	-55.5		29	15.9	27	15936	-54.0		29	19.1																				
75	27	17801	-77.9		08	3.7	27	17302	-55.6		27	18.6	27	17491	-53.0		29	9.7	28	17452	-56.1		29	13.1	26	17372	-55.1		29	15.7																				
70	27	18575	-73.4		29	2.8	27	18212	-55.8		26	17.6	25	18355	-54.2		29	7.6	27	18308	-55.6		30	11.0	26	18226	-54.7		30	14.4																				
60	27	19489	-68.4		27	7.7	27	19159	-56.0		26	15.4	22	19257	-52.6		31	9.7	27	19229	-55.5		31	9.1	25	19209	-54.8		31	13.1																				
50	27	20596	-64.1		27	8.3	27	20335	-55.3		27	14.2	20	20537	-52.3		33	3.5	26	20540	-54.8		31	8.4	25	20335	-54.8		31	16.8																				
40	26	21973	-61.4		27	5.7	27	21778	-55.7		27	11.6	21	21985	-51.3		36	4.0	26	21877	-55.3		33	7.5	25	21800	-55.3		31	11.6																				
30	26	23772	-57.7		09	7.8	27	23612	-55.0		29	10.1	18	23877	-50.3		04	6.9	26	23715	-54.5		35	7.7	24	23639	-54.6		32	9.7																				
25	26	24929	-55.8		09	16.5	25	24773	-54.5		29	13.0	18	25067	-50.3		05	8.5	25	24892	-53.2		36	7.4	24	24805	-54.9		33	11.4																				
20	26	26356	-52.5		09	23.7	24	26194	-53.5		29	14.1	17	26531	-49.7		05	11.9	21	26347	-51.7		01	7.4	22	26249	-53.3		33	9.6																				
15	21	28293	-58.1		09	26.9	23	28093	-53.0		29	16.2	15	28441	-47.6		06	13.3	15	28273	-50.2		04	9.3	17	28193	-50.5		36	9.8																				
10	13	30397	-61.8		09	25.7	12	30710	-50.6									13.5	7	30397	-47.1																													
7																																																		
1																																																		

* ST PAUL IS., ALASKA 1010 MB										SALEM, ILL. 994 MB										SALEM, OREG. 1013 MB										SALT LAKE CITY, UTAH 875 MB										SAN DIEGO, CALIF. 1004 MB									
SURFACE		28	10	-10.0	-12.0	07	5.5	28	174	-1.0	-4.1	26	.6	28	61	3.7	1.2	18	3.2	28	1.288	-2.5	-6.7	17	1.8	28	124	8.1	1.6	08	.9																		
1000	19	145	-12.8	-15.0	02	6.5	5	212	-7.4	-11.7	27	174	4.4	2.6	19	4.0									26	160	10.9	.6	08	1.0																			
950	28	478	-11.7	-14.7	02	6.7	28	534	-7.7	-16.4	25	4.1	28	583	3.4	7	21	6.8							28	565	11.3	-3.0	01	1.1																			
900	28	892	-12.5	-17.3	07	5.5	28	966	-7.7	-10.8	27	7.5	28	1021	-1.8	-3.6	23	8.3							28	1037	10.9	-6.6	35	2.0																			
850	28	1328	-11.3	-18.9	35	5.0	28	1422	-1.4	-12.3	29	6.6	28	1480	-1.3	-6.2	24	9.5	28	1.516	-1.2	-9.1	19	2.4	28	1.511	3.5	-10.2	35	2.5																			
800	28	1789	-14.6	-21.7	34	5.4	28	1904	-3.1	-15.5	28	10.7	28	1954	-2.7	-9.6	24	10.2	28	1.998	-3.0	-12.0	22	2.6	28	2.009	5.8	-12.8	31	4.1																			
750	28	2267	-16.7	-23.8	33	5.7	28	2413	-5.3	-17.7	28	12.1	28	2473	-5.5	-15.3	25	10.2	28	2.507	-5.8	-14.0	27	3.8	28	2.536	3.8	-16.1	30	6.1																			
700	28	2792	-18.6	-26.5	33	6.3	28	2952	-8.2	-20.0	28	13.9	28	3011	-8.4	-19.1	26	11.3	28	3.044	-8.9	-17.7	29	6.0	28	3.092	4.4	-19.0	31	7.8																			
650	28	3362	-20.9	-28.4	32	6.8	28	3555	-11.1	-22.5	28	14.7	28	3603	-11.7	-21.2	27	11.9	28	3.265	-11.9	-20.5	29	7.6	28	3.383	-7.3	-21.1	31	9.8																			
600	28	3932	-21.9	-32.1	32	8.1	28	4134	-14.9	-26.0	28	16.5	28	4192	-19.5	-29.2	27	13.2	28	3.423	-15.8	-24.6	30	9.2	28	3.512	-7.3	-24.3	30	10.8																			
550	28	4561	-27.5	-35.3	31	8.5	28	4787	-19.2	-29.8	28	18.4	28	4843	-19.9	-29.7	27	13.8	28	4.874	-20.2	-29.2	30	11.2	28	4.984	-1.2	-28.8	30	11.9																			
500	28	5240	-31.9	-38.3	31	6.6	28	5488	-24.3	-34.2	28	20.3	28	5543	-25.0	-33.8	26	15.1	28	5.573	-25.1	-34.8	30	13.3	28	5.705	-17.3	-32.8	29	13.0																			
450	28	5977	-36.8	-39.3	30	6.1	28	6248	-29.7	-39.5	28	22.2	28	6301	-30.0	-37.5	27	16.4	28	6.331	-30.1	-40.1	29	15.1	28	6.486	-23.0	-37.3	29	14.4																			
400	28	6784	-46.1	-41.9	30	6.9	28	7077	-35.7	-44.9	28	25.1	28	7129	-36.1	-43.5	27	18.3	28	7.159	-36.2	-44.6	29	17.7	27	7.337	-29.7	-43.0	28	17.5																			
350	28	7657	-58.2			6.7	28	7956	-42.0		27	30.3	28	8003	-43.1		28	15.9	28	8.003	-42.5	-45.2	29	19.6	27	8.278	-36.9	-47.5	28	20.0																			
300	26	8672	-63.3			8.0	27	9022	-57.6		27	33.9	27	9072	-55.0		28	22.6	28	9.100	-55.																												
250	26	9484	-68.2			27	8.2	26	10207	-52.7		27	34.8	26	10240	-55.4		28	22.0	28	10.277	-55.2																											
200	26	11295	-68.3			25	9.7	26	11645	-52.7		27	35.4	26	11661	-54.6		29	20.4	28	11.697	-55.5																											
175	26	12177	-67.2			25	11.4	26	12507	-53.0		27	29.3	26	12520	-53.1		28	18.5	28	12.550	-54.7																											
150	26	13199	-66.2			25	11.5	26	13500	-53.8		27	27.9	26	13514	-53.3		29	16.2	28	13.537	-54.7																											
125	27	14451	-66.3			24	12.0	25	14665	-56.3		27	25.2	24	14682	-54.0		28	15.9	28	14.700	-56.5																											
100	25	15899	-66.5			24	12.1	26	16074	-58.8		27	20.7	23	16107	-56.7		28	11.4	28	16.111	-58.2																											
80	25	17373	-67.1			24	10.5	23	17475	-59.4		27	15.8	23	17537	-54.4		30	6.5	25	17.506	-59.2																											
70	25	18257	-67.2			24	11.8	23	18311	-59.2		28	11.8	22	18389	-54.6		30	5.2	25	18.342	-58.5																											
60	24	19286	-67.3			24	11.4	23	19278	-58.6		28	8.1	22	19375	-54.7		31	4.9	23	19.319	-57.6																											
50	24	20495	-67.8			24	11.1	23	20426	-58.0		33	4.4	22	20545	-53.7		31	3.6	21	20.473	-56.3																											
40	24	21978	-67.8			24	10.7	23	21836	-60.8		34	4.3	21	21981	-53.3		31	4.4	21	21.892	-56.0																											
30	23	23884	-69.9			24	10.5	21	23657	-59.5		61	3.6	20	23480	-51.7		30	6.7	21	23.729	-54.9																											
25	23	25094	-67.0			24	10.3	21	24822	-51.6		63	3.9	18	25030	-51.3		05	8.1	21	24.989	-53.6																											
20	21	26566	-67.0			24	10.1	21	26257	-52.9		34	4.1	18	26482	-51.1		04	8.9	17	26.317	-53.1																											
15	19	28462	-66.7			24	8.9	19	28116	-50.9		34	5.2	14	28336	-50.6		04	10.7	14	28.182	-51.5																											
10	17	31238	-61.6			24	14	30717	-7.3		12	8	31025	-49.5				08	30.818	-48.6																													
7	10	33681	-38.8																					7	30	3917	-46.3																						

Average monthly values

FEBRUARY 1974

VICTORIA, TEXAS 1014 MB										* WAKE IS., PACIFIC AREA 2014 MB										* WALLOPS IS., VA. NASA 1015 MB										WASHINGTON DULLES INT. AP 1006 MB										WAYCROSS, GA. 1012 MB									
SURFACE	28	33	9.8	6.1	33	.6	28	5	204.6	21.0	07	5.2	28	4	1.7	-1.8	32	2.3	24	85	-3.3	-7.7	31	1.4	28	44	7.3	4.8	25	1.6																			
1000	28	145	13.3	4.9	35	.7	28	12	23.1	19.0	07	5.2	27	139	1.8	-4.5	31	9.9	195	-4.4	-9.0	31	2.1	20	154	10.0	3.1	28	2.3																				
950	28	576	11.6	1.5	21	.5	28	573	2.2	17.7	07	7.4	28	127	.7	-6.9	30	5.5	24	542	-1.2	-8.5	29	5.8	528	8.6	1.0	26	4.9																				
900	28	1028	10.7	-2.7	24	.3	28	1038	16.9	14.1	07	5.1	28	972	-.4	-7.9	28	7.9	24	972	-3.4	-10.0	28	8.5	28	1018	7.4	-3.1	26	7.5																			
850	28	1503	8.8	-7.3	24	.0	28	1524	13.9	8.9	03	3.8	28	1428	-1.7	-11.0	28	9.8	24	1423	-6.0	-11.9	28	10.7	28	1488	6.5	-7.6	26	10.6																			
800	28	2003	7.3	-10.0	27	.0	28	2035	12.3	3.1	07	2.0	24	1909	-3.7	-13.1	28	11.6	24	1900	-5.4	-15.3	28	12.1	24	1985	4.9	-10.9	27	12.7																			
750	28	2532	5.7	-14.0	28	.8	28	2574	10.1	-3.7	05	.6	28	2417	-6.0	-16.4	27	13.2	24	2405	-7.7	-19.2	28	13.2	28	2495	2.5	-13.5	26	15.2																			
700	28	3093	2.7	-17.0	27	.0	28	3145	7.7	-11.9	31	1.1	28	2955	-8.4	-20.0	27	15.8	24	2941	-9.7	-22.7	28	15.0	28	3004	-.3	-16.1	26	17.1																			
650	28	3648	-.8	-20.0	27	.3	28	3703	4.4	-15.1	25	2.1	28	3457	-12.7	-22.7	27	18.5	24	3641	-11.7	-25.8	28	16.3	28	3707	-3.1	-19.2	27	19.7																			
600	28	4123	2.3	-23.2	26	.5	28	4201	3.3	-18.3	29	3.8	28	4138	-14.6	-27.2	27	20.3	24	4118	-15.4	-27.8	27	19.5	28	4203	0.0	-23.5	26	20.9																			
550	28	5001	-.6	-26.4	27	.0	28	5095	-3.1	-21.7	28	5.8	28	4792	-18.5	-31.2	27	23.2	24	5070	-19.1	-31.0	28	23.0	28	5155	-11.5	-26.3	26	23.3																			
500	28	5730	-14.8	-30.1	27	.0	28	5844	-7.4	-25.8	29	8.8	28	5496	-23.1	-34.5	27	26.1	24	5673	-23.8	-34.7	28	24.9	28	5680	-16.4	-30.4	27	25.9																			
450	28	6519	-19.9	-34.6	27	.0	28	6556	-12.4	-28.6	29	11.0	28	6261	-28.0	-38.2	27	29.7	24	6235	-28.7	-38.4	27	27.0	28	6464	-21.5	-35.2	26	29.6																			
400	28	7384	-25.9	-39.1	27	.2	28	7546	-18.3	-34.8	29	13.5	28	7097	-33.8	-41.8	26	34.0	24	7068	-34.8	-43.8	27	29.7	28	7322	-27.7	-40.0	27	32.2																			
350	27	8338	-33.0	-45.0	26	.3	28	8393	-25.0	-41.3	30	16.1	28	8023	-40.1	-44.0	26	37.4	24	7991	-41.3	-42.3	27	32.8	28	8272	-34.1	-45.6	26	35.9																			
300	27	9408	-40.0	-47.4	24	.0	28	9493	-32.4	-47.9	30	19.6	28	9006	-47.0	-47.0	26	42.6	24	8973	-47.0	-47.0	27	42.3	28	9331	-42.1	-48.5	27	45.7																			
250	27	10615	-46.9	-50.0	23	.0	28	10889	-41.1	-53.9	29	23.8	28	10249	-52.9	-52.9	26	41.2	24	10213	-52.1	-52.1	27	41.3	28	10545	-47.2	-50.0	27	41.7																			
200	27	12056	-54.9	-.9	26	.3	28	12373	-52.7	-.7	31	18.7	28	11681	-54.4	-.7	26	36.2	24	11650	-53.6	-.7	27	37.4	25	11981	-54.7	-.7	27	46.4																			
175	27	12906	-56.9	-.6	26	.4	28	13222	-52.7	-.6	31	17.8	28	12538	-53.6	-.6	26	34.3	24	12510	-53.0	-.6	27	32.6	28	12833	-56.4	-.6	27	45.5																			
150	27	13874	-60.6	-.6	26	.3	28	14171	-66.5	-.5	29	16.7	28	13525	-55.4	-.4	26	33.5	24	13504	-53.3	-.4	27	30.4	28	13805	-59.4	-.4	27	40.0																			
125	27	14996	-65.2	-.2	27	.2	28	15525	-74.0	-.0	29	12.8	29	14681	-58.0	-.0	27	26.7	24	14673	-55.1	-.0	27	25.8	28	14935	-63.4	-.0	27	35.1																			
100	27	16342	-69.4	-.0	27	.4	28	16532	-80.7	-.0	29	8.5	28	16076	-60.8	-.0	27	19.8	24	16090	-57.6	-.0	27	21.7	28	16294	-66.8	-.0	26	42.6																			
75	27	17668	-70.6	-.0	27	.5	28	17786	-80.5	-.0	30	2.2	29	17463	-61.1	-.0	27	16.3	24	17497	-58.0	-.0	27	17.3	28	17638	-67.8	-.0	27	18.4																			
50	27	18645	-68.9	-.0	27	1.0	28	18954	-74.6	-.0	29	1.8	28	18597	-59.7	-.0	27	11.1	24	18634	-57.1	-.0	28	9.8	25	18936	-64.3	-.0	27	9.0																			
25	27	19392	-66.8	-.8	28	6.2	24	19448	-70.7	-.7	11	2.4	29	19259	-59.4	-.4	27	11.1	24	19314	-57.1	-.8	28	9.8	25	19386	-64.3	-.0	27	9.0																			
0	27	20508	-62.4	-.8	28	3.2	23	20548	-64.6	-.6	12	3.0	27	20406	-58.6	-.6	28	5.9	23	20469	-57.2	-.8	28	8.7	25	20510	-60.9	-.8	28	4.3																			
40	27	21890	-59.3	-.0	29	1.2	23	21926	-59.7	-.7	10	3.7	24	21817	-57.2	-.2	34	2.6	22	21393	-56.1	-.3	30	6.3	25	21906	-58.2	-.3	30	2.6																			
30	27	23707	-56.1	-.0	29	2.5	27	23746	-55.6	-.6	07	3.4	22	23647	-55.6	-.6	33	2.9	22	23978	-54.6	-.6	30	3.8	23	23979	-55.2	-.6	30	1.8																			
20	27	24870	-54.5	-.0	29	3.3	26	24907	-54.2	-.2	07	4.8	22	24812	-54.4	-.4	31	2.8	22	24896	-54.2	-.3	31	5.6	23	24898	-53.3	-.3	30	1.3																			
10	27	26308	-52.2	-.0	30	2.1	19	26346	-51.3	-.3	08	6.4	19	26283	-52.4	-.4	31	1.8	21	26339	-52.5	-.5	31	5.1	19	26333	-51.3	-.3	30	0.6																			
0	27	28174	-50.0	-.0	30	1.5	22	28199	-49.8	-.0	09	1.5	22	28150	-49.8	-.0	33	1.2	21	28206	-49.8	-.0	34	3.0	17	28206	-49.8	-.0	32	2.1																			
10	27	30657	-45.5	-.5	14	1.8	17	30924	-41.8	-.0	11	4.8	12	30847	-47.1	-.1	11	3.0	12	30828	-46.6	-.6	8	30	30864	-46.0	-.6																						
10	27	33262	-.4	-.5	7	7	33272	-41.0	-.0					33	22.4	-43.7																																	

RAWINSONDE DATA

Average monthly values

WINNEMUCCA, NEV. 874 MB										KINSLOR, ARIZ. 854 MB										YAKUTAT, ALASKA 999 MB										YAP, LARLINE IS. 1007 MB										YUCCA FLAT, NEV. 844 MB									
Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind		No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind		No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind		No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind		No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind																				
					Direction	Speed M.p.h.					Direction	Speed M.p.h.					Direction	Speed M.p.h.					Direction	Speed M.p.h.					Direction	Speed M.p.h.																			
SURFACE	28	1,312	-2.3	-9.7	21	1.3	28	1,487	-5.7	-12.2	25	1.0	28	12	-3.2	-5.5	12	1.5	28	14	27.9	08	4.6	28	1,198	-1.9	-8.9	33	1.7																				
1000																																																	
950																																																	
900																																																	
850	28	1,531	.6	-8.0	21	2.5	21	1,544	-3.2	-11.7	26	.8	28	1,291	-7.3	-11.0	18	6.1	28	1,497	17.5	13.0	08	10.1	24	1,517	3.7	-11.8	34	3.1																			
800	28	2,016	-1.8	-10.5	25	3.9	28	2,005	.2	-11.9	30	2.3	28	1,761	-10.3	-13.6	18	7.3	28	2,014	15.4	8.0	08	8.9	28	2,007	.9	-14.0	34	1.8																			
750	28	2,527	-4.7	-13.9	26	5.2	28	2,521	-1.5	-14.5	31	4.7	28	2,255	-13.6	-18.2	18	7.9	28	2,560	12.8	3.3	08	8.4	28	2,523	-1.2	-16.1	34	3.0																			
700	28	3,066	-7.8	-16.8	27	6.8	28	3,068	-3.8	-18.7	31	5.8	28	2,776	-17.0	-22.2	19	6.8	28	3,137	9.7	-2.9	08	8.3	28	3,071	-3.2	-19.2	31	5.3																			
650	28	3,539	-11.2	-20.6	29	8.6	28	3,650	-7.1	-21.0	30	7.1	28	3,329	-20.6	-24.8	19	6.3	28	3,749	6.6	-6.4	08	9.4	28	3,654	-8.4	-21.7	31	7.1																			
600	28	4,250	-14.8	-24.9	28	10.7	27	4,274	-10.2	-24.7	30	9.4	28	3,916	-24.7	-29.0	21	7.0	28	4,402	2.9	-10.7	08	9.4	28	4,275	-10.3	-24.8	31	9.5																			
550	28	4,903	-18.8	-28.0	28	13.0	27	4,939	-14.7	-29.0	30	11.0	28	4,544	-28.9	-33.8	22	7.7	28	5,102	.8	-15.5	08	8.7	28	4,939	-15.2	-29.1	31	11.5																			
500	28	5,607	-23.4	-33.3	29	14.2	27	5,653	-20.0	-33.5	30	13.0	28	5,219	-33.6	-39.1	23	10.2	28	5,857	-5.2	-20.6	08	8.8	28	5,652	-20.5	-33.8	31	13.8																			
450	27	6,374	-28.1	-37.0	29	16.6	27	6,427	-25.2	-38.3	30	15.7	28	5,952	-38.2	-41.0	24	13.3	28	6,678	-9.7	-24.7	10	8.9	28	6,424	-25.9	-38.9	31	15.2																			
400	27	7,209	-34.6	-41.7	30	18.1	26	7,267	-31.7	-43.7	30	17.7	27	6,753	-43.3	-43.4	25	14.7	28	7,577	-15.4	-29.7	10	8.2	28	7,256	-32.2	-42.9	29	16.5																			
350	26	8,131	-41.8		30	19.7	26	8,200	-38.8	-47.2	29	20.6	27	7,662	-49.1		25	16.0	28	8,576	-22.1	-36.1	10	7.2	28	8,198	-39.0	-46.2	28	18.6																			
300	26	9,154	-49.9		30	22.6	26	9,239	-46.3		29	23.7	27	8,642	-52.7		25	15.6	28	9,687	-30.7	-42.2	10	6.5	28	9,235	-46.7		28	21.8																			
250	25	10,322	-57.3		30	23.7	26	10,432	-53.1		28	29.1	27	9,819	-51.5		25	17.7	28	10,955	-40.9	-48.9	11	6.3	28	10,425	-53.9		28	24.4																			
200	25	11,727	-57.1		28	21.7	25	11,857	-55.0		28	30.2	27	11,280	-48.4		26	14.8	28	12,433	-53.4		10	6.8	28	11,844	-56.7		28	26.1																			
175	25	12,575	-55.1		28	19.4	25	12,709	-56.0		28	29.2	27	12,160	-47.9		26	15.7	28	13,279	-60.4		10	7.2	28	12,692	-56.0		28	23.9																			
150	25	13,560	-55.3		28	18.7	25	13,687	-57.3		27	25.6	26	13,179	-47.4		26	15.4	28	14,221	-68.3		11	7.2	28	13,671	-56.7		28	23.2																			
125	25	14,720	-57.2		28	15.7	24	14,835	-60.3		27	22.1	26	14,385	-47.4		27	15.3	28	15,294	-76.5		11	9.9	27	14,826	-58.2		28	17.6																			
100	24	16,123	-59.1		29	12.6	24	16,216	-63.0		28	18.4	25	15,861	-47.9		27	16.2	28	16,550	-83.7		10	13.8	27	16,220	-60.9		28	13.8																			
80	24	17,522	-59.0		30	7.6	23	17,584	-63.8		28	10.2	25	17,329	-48.6		28	16.1	28	17,809	-77.2		10	5.3	24	17,604	-61.6		28	9.2																			
70	23	18,364	-58.3		31	5.2	23	18,405	-63.1		29	6.9	24	18,223	-48.1		28	15.5	28	18,584	-73.1		24	1.1	24	18,433	-60.7		28	5.9																			
60	23	19,334	-58.0		33	3.7	23	19,358	-61.3		30	3.9	24	19,239	-48.0		28	14.8	27	19,498	-68.8		28	3.8	24	19,396	-59.1		31	3.5																			
50	23	20,488	-56.3		34	3.4	21	20,500	-59.0		35	2.1	24	20,439	-48.7		28	17.6	27	20,599	-65.0		28	4.1	25	20,542	-57.8		04	2.8																			
40	21	21,905	-55.7		03	4.3	19	21,908	-57.3		07	6.1	23	21,926	-48.8		29	14.7	27	21,974	-60.7		28	1.0	25	21,955	-56.4		08	4.3																			
30	18	23,747	-54.6		04	6.9	16	23,734	-55.6		07	7.5	21	23,837	-48.1		29	14.1	27	23,787	-56.2		09	9.3	24	23,786	-55.0		07	7.2																			
25	16	24,923	-53.9		06	8.6	15	24,899	-54.6		07	10.1	20	25,040	-48.2		29	14.5	25	24,948	-54.8		09	15.5	22	24,955	-53.6		07	8.9																			
20	9	26,383	-52.4				11	26,342	-53.3		07	9.2	16	26,550	-47.0		29	12.3	23	26,380	-52.2		09	22.1	21	26,392	-52.1		07	10.3																			
15	7	28,275	-50.2				8	28,205	-50.8				13	28,538	-44.1		30	10.7	23	28,259	-48.8		04	23.9	16	28,291	-49.7		08	15.0																			
10													11	31,316	-40.4																																		
7																																																	

SOLAR RADIATION INTENSITIES

Tabulated in langley's per minute on a surface normal to the direction of the sun.

FEBRUARY 1974

Date	Sun's zenith distance								
	A M				*	P M			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°

ALBUQUERQUE, N. MEX.

	Air mass								
	4.69	3.75	2.51	1.67	*	1.67	2.51	3.35	4.19
1-----	1.06	1.16	1.28	----	----	1.39	1.24	1.12	1.00
2-----	1.08	1.18	1.29	1.43	1.43	1.40	1.29	1.20	1.10
3-----	1.10	1.19	1.29	1.43	1.50	1.44	1.29	1.18	1.08
4-----	1.08	1.19	1.26	1.38	1.50	(1.46)	1.29	1.18	1.06
5-----	1.10	1.21	1.20	1.44	----	1.37	1.15	1.01	.89
6-----	.95	1.03	----	----	----	----	----	----	----
7-----	1.00	----	1.21	1.37	1.45	1.38	1.23	1.11	1.02
8-----	1.05	1.15	1.26	1.41	1.48	1.40	1.23	1.11	1.00
9-----	----	----	----	----	1.40	1.42	1.23	1.16	1.06
10-----	.99	1.10	1.21	1.37	(1.43)	(1.37)	1.18	1.08	.96
11-----	.98	1.06	1.18	1.35	1.44	----	----	----	----
12-----	1.02	1.13	1.24	1.39	----	----	----	----	----
13-----	1.01	1.12	1.24	1.39	1.44	1.36	1.16	1.07	.94
14-----	----	----	----	----	----	1.20	1.09	.98	----
15-----	----	----	----	----	1.35	----	----	(.97)	----
16-----	----	1.15	----	----	----	----	----	----	----
17-----	1.11	1.21	1.28	1.42	1.55	1.42	1.28	1.15	1.06
18-----	1.11	1.21	1.32	1.46	1.54	1.47	1.33	1.23	1.14
19-----	1.11	1.19	1.29	1.43	1.54	1.43	1.27	1.18	1.05
20-----	1.08	1.19	1.28	1.45	1.52	1.40	1.27	1.15	1.07
21-----	(1.12)	(1.21)	(1.32)	----	----	(1.43)	(1.25)	(1.10)	(1.00)
22-----	----	1.10	1.23	----	----	----	----	----	----
Aver- ages	1.07	1.15	1.25	1.41	1.49	1.40	1.24	1.13	1.03

MAUNA LOA OBSERVATORY, HAWAII

	Air mass								
	3.36	2.69	2.01	1.44	*	1.34	2.01	2.69	3.36
1-----	1.17	1.27	1.37	1.49	----	----	----	----	----
2-----	1.17	1.23	1.33	1.47	----	----	----	----	----
3-----	----	1.25	----	----	----	----	----	----	----
4-----	1.03	1.14	1.31	1.45	----	----	----	----	----
5-----	----	1.23	1.33	1.46	----	----	----	----	----
6-----	1.07	1.17	1.29	1.43	----	----	----	----	----
7-----	----	----	----	----	----	1.25	1.19	1.10	----
8-----	1.18	1.28	1.39	1.52	1.60	1.45	1.35	1.24	1.15
9-----	1.26	1.35	1.45	1.56	1.66	1.55	1.44	1.35	1.29
10-----	1.26	1.35	1.43	1.54	1.65	1.54	1.43	1.34	1.28
11-----	1.29	1.36	1.44	1.55	1.66	1.54	1.42	1.34	1.26
12-----	1.28	1.36	1.44	1.55	1.66	1.55	1.44	1.35	1.28
13-----	1.28	1.35	1.44	1.54	----	----	----	----	----
14-----	1.27	1.34	1.43	1.53	1.59	----	----	----	----
15-----	1.27	1.34	1.44	1.53	1.60	----	----	----	----
16-----	1.25	1.32	1.42	1.53	----	----	----	----	----
17-----	1.20	1.28	1.37	1.50	1.62	----	----	----	----
18-----	----	1.32	1.41	1.53	1.65	1.51	1.42	1.33	1.26
19-----	1.25	1.34	1.42	1.52	1.59	----	----	----	----
20-----	1.22	1.30	1.40	1.50	----	----	----	----	----
Aver- ages	1.21	1.29	1.40	1.51	1.63	1.52	1.39	1.31	1.23

TUCSON, ARIZ.

	Air mass								
	1.86	1.65	2.74	1.83	*	1.83	2.74	3.65	4.56
1-----	.93	1.05	1.16	1.33	1.42	1.38	1.23	1.10	1.01
2-----	.79	.96	1.06	1.26	1.38	1.22	1.08	.98	.84
3-----	.96	1.06	1.20	1.46	1.46	1.35	1.19	1.07	.96
4-----	1.08	1.17	1.31	1.43	1.52	1.42	1.23	1.10	1.01
5-----	.95	1.05	1.21	1.38	1.44	1.37	1.23	1.10	1.02
6-----	----	----	1.34	1.44	----	----	----	.93	.83
7-----	.94	1.06	1.19	1.28	1.44	1.39	1.23	1.10	1.00
8-----	1.05	1.13	1.27	1.42	1.54	1.40	1.24	1.10	1.00
9-----	1.05	1.13	1.28	1.41	----	----	----	----	.99
10-----	1.00	1.10	1.23	1.39	1.50	1.36	1.22	1.08	.95
11-----	----	1.23	1.39	1.51	1.36	1.26	1.04	.85	.85
12-----	.89	.99	1.12	1.31	1.39	1.22	1.06	.92	.79
13-----	.90	.97	1.15	1.31	1.44	1.30	1.07	.87	.85
14-----	----	----	1.31	1.41	1.41	1.28	1.14	1.00	.88
15-----	.75	.86	1.04	1.27	1.42	1.34	1.14	----	----
16-----	----	----	1.34	1.43	1.43	1.32	1.16	1.01	.90
17-----	1.04	1.11	1.20	1.39	1.51	1.38	1.23	1.10	1.01
18-----	1.02	1.09	1.20	1.39	1.54	1.41	----	----	----
19-----	.98	1.09	1.21	1.36	1.49	1.40	1.27	1.14	1.06
20-----	1.06	1.16	1.26	1.40	1.51	1.36	1.22	1.10	1.02
21-----	1.02	1.09	1.23	1.40	1.52	----	----	----	----
22-----	----	1.19	1.36	1.47	1.36	1.19	1.06	.96	----
23-----	.96	1.06	1.25	1.37	1.49	1.35	1.20	1.06	.97
Aver- ages	.96	1.06	1.20	1.36	1.46	1.34	1.18	1.04	.95

Date	Sun's zenith distance								
	A M				*	P M			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°

MADISON, WIS.

	Air mass								
	4.09	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
1-----	----	----	----	----	----	----	----	----	----
2-----	----	----	----	----	----	----	----	----	----
3-----	----	----	----	----	----	----	----	----	----
4-----	----	----	----	----	----	----	----	----	----
5-----	----	----	----	----	----	----	----	----	----
6-----	----	----	----	----	----	----	----	----	----
7-----	----	----	----	----	----	----	----	----	----
8-----	----	----	----	----	----	----	----	----	----
9-----	----	----	----	----	----	----	----	----	----
10-----	----	----	----	----	----	----	----	----	----
11-----	----	----	----	----	----	----	----	----	----
12-----	----	----	----	----	----	----	----	----	----
13-----	----	----	----	----	----	----	----	----	----
14-----	----	----	----	----	----	----	----	----	----
15-----	----	----	----	----	----	----	----	----	----
16-----	----	----	----	----	----	----	----	----	----
17-----	----	----	----	----	----	----	----	----	----
18-----	----	----	----	----	----	----	----	----	----
19-----	----	----	----	----	----	----	----	----	----
20-----	----	----	----	----	----	----	----	----	----
21-----	----	----	----	----	----	----	----	----	----
22-----	----	----	----	----	----	----	----	----	----
23-----	----	----	----	----	----	----	----	----	----
24-----	----	----	----	----	----	----	----	----	----
25-----	----	----	----	----	----	----	----	----	----
26-----	----	----	----	----	----	----	----	----	----
27-----	----	----	----	----	----	----	----	----	----
Aver- ages	----	----	----	----	----	----	----	----	----

NO DATA RECEIVED

NO DATA RECEIVED

OMAHA, NEBR.

	Air mass								
	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
1-----	----	----	----	----	----	----	----	----	----
2-----	----	----	----	----	----	----	----	----	----
3-----	----	----	----	----	----	----	----	----	----
4-----	----	----	----	----	----	----	----	----	----
5-----	----	----	----	----	----	----	----	----	----
6-----	----	----	----	----	----	----	----	----	----
7-----	----	----	----	----	----	----	----	----	----
8-----	----	----	----	----	----	----	----	----	----
9-----	----	----	----	----	----	----	----	----	----
10-----	----	----	----	----	----	----	----	----	----
11-----	----	----	----	----	----	----	----	----	----
12-----	----	----	----	----	----	----	----	----	----
13-----	----	----	----	----	----	----	----	----	----
14-----	----	----	----	----	----	----	----	----	----
15-----	----	----	----	----	----	----	----	----	----
16-----	----	----	----	----	----	----	----	----	----
17-----	----	----	----	----	----	----	----	----	----
18-----	----	----	----	----	----	----	----	----	----
19-----	----	----	----	----	----	----	----	----	----
20-----	----	----	----	----	----	----	----	----	----
21-----	----	----	----	----	----	----	----	----	----
22-----	----	----	----	----	----	----	----	----	----
23-----	----	----	----	----	----	----	----	----	----
24-----	----	----	----	----	----	----	----	----	----
25-----	----	----	----	----	----	----	----	----	----
26-----	----	----	----	----	----	----	----	----	----
27-----	----	----	----	----	----	----	----	----	----
Aver- ages	----	----	----	----	----	----	----	----	----

Net radiation in langley's per day (8 a.m. to 8 a.m.) at Palmer, Alaska.

FEBRUARY 1914

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Ave.
Langley's, ..	-46	-15	-8	7	-17	8	-61	-43	-50	-11	-31	-39	-51	-55	-57	-53	-35	-65	-72	-40	-42	-63	-48	-62	-78	-83	-24	-68				-43

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and mortality average ($\pm 3900 \pm$) at Ames, Iowa.

TOTAL OZONE DATA

these provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code "S.S.A." defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

1 litre Milli-atmos.

REFERENCE NOTES

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES: Dates in the table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

- + And also on an earlier date or dates.
- D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch of water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA -- METRIC UNITS: Data from airport unless otherwise specified.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile data can be evaluated.

- B Number of days maximum 21.1°C. or above for Alaskan Stations.
- Y Peak Gust.
- + And also on an earlier date or dates.
- U Indicates Urban site.
- R Indicates Rural site.
- Ø Station pressures apply to elevations shown in the "Elevations" table of the annual issue of this publication.

Conversion formulae to English Units are as follows:

- 1 foot = 0.3048 meters
- °F. = $9 \times ^\circ\text{C} + 32$
- 1 inch = 25.4 millimeters
- 1 mile per hour = 0.447 meters per second

HEATING DEGREE DAYS: Data from airport unless otherwise specified.

- U Indicates Urban site.
- R Indicates Rural site.

COOLING DEGREE DAYS: Data from airport unless otherwise specified.

- U Indicates Urban site.
- R Indicates Rural site.

STORM SUMMARY:

- ° Includes crop damage.
- C Crop damage.
- * No occurrence of storms or unusual weather phenomena reported.
- @ Includes heavy sleet storm.
- # Freezing drizzle and freezing rain, commonly known as glaze.
- Ø For breakdown of "All Others," and for detailed listing of other storms, see the Environmental Data Service, NOAA, monthly publication STORM DATA.
- + No Storm Data Report received for this State.
- < Report Incomplete.
- † Storm damages are placed in categories varying from 1 to 9 as follows:
 - 1 Less than \$50
 - 2 \$50 to \$500
 - 3 \$500 to \$5,000
 - 4 \$5,000 to \$50,000
 - 5 \$50,000 to \$500,000
 - 6 \$500,000 to \$5 Million
 - 7 \$5 Million to \$50 Million
 - 8 \$50 Million to \$500 Million
 - 9 \$500 Million to \$5 Billion.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS:

- 1/ Flooding continued at the end of the month.
- NA Not available.

FLOOD STAGE DATA:

- # Highest Stage Observed
- 1/ Continued at end of month
- Highest Stage of Record
- E Estimated
- P Provisional (Flood Stage)
- U Unknown

RAWINSONDE DATA (Average Monthly Values):

All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygrometers. These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

- * Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.
- + Observations for these stations are scheduled at 0000 G.C.T.
- † Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

REFERENCE NOTES - Continued

SOLAR RADIATION INTENSITIES: Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

()	Clouds Present	DM	Moderate Dust	HM	Moderate Haze	KS	Slight Smoke
*	Values corresponding to true solar noon	DS	Slight Dust	HS	Slight Haze	M	Moderate Haze-indeter-
BD	Blowing Dust	F	Fog	I	Intense Haze-indeterminable		minable
BN	Blowing Sand	GF	Ground Fog	K	Smoke	N	Sand
D	Dust	H	Haze	KI	Intense Smoke	S	Slight Haze-indeter-
DI	Intense Dust	HI	Intense Haze	KM	Moderate Smoke		minable

NFT RADIATION: The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the NOAA, National Weather Service.

SOLAR ULTRA-VIOLET RADIATION DATA: These data are from an U-V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. This instrument has not been checked by the NOAA, National Weather Service.

TOTAL OZONE DATA: The spectrophotometer measures the total amount of ozone in the atmosphere, i.e., the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded $\rho \rho \rho$) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e.g., 350 milli-atmo-cm ozone implies an ozone layer 0.350 centimeter thick. The code λ_S designates the type of measurement made.

Chart 1. A. Normal Daily Average Temperature (°F. 1941-70), February.



B. Temperature Departure from 30 - Year Mean (°F. 1941-70), February 1974

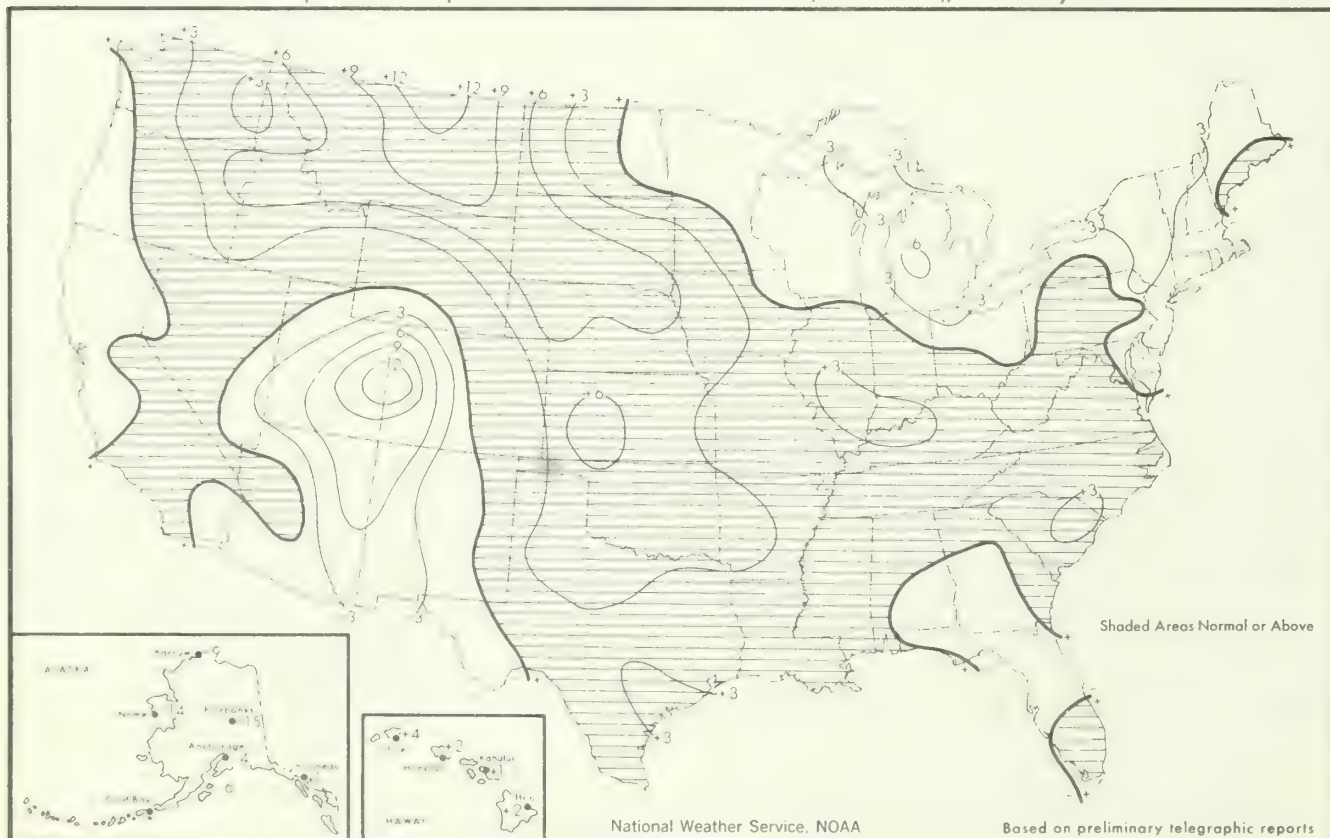


Chart II. A. Total Precipitation (Inches), FEBRUARY 1974



B. Percentage of Normal Precipitation, FEBRUARY 1974

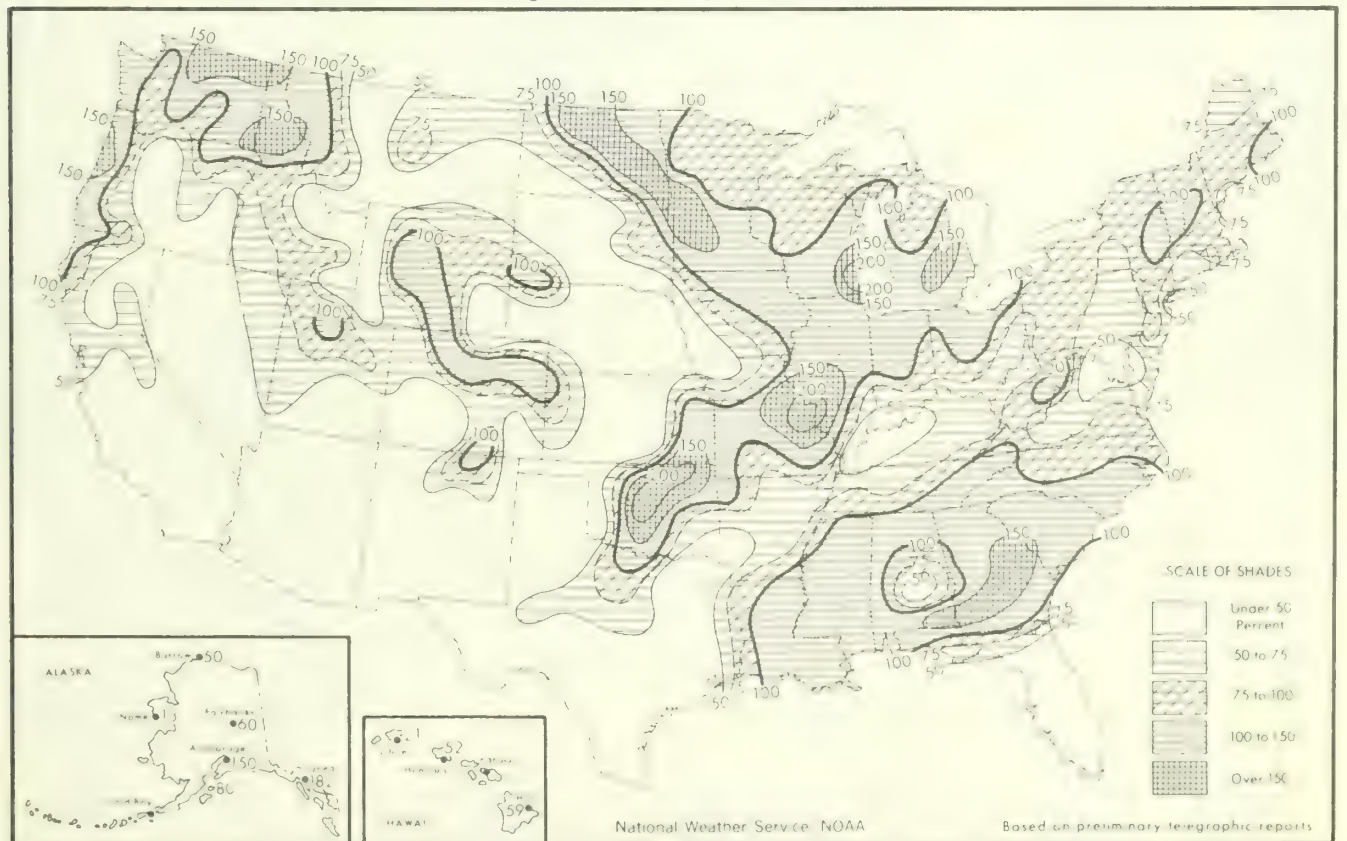
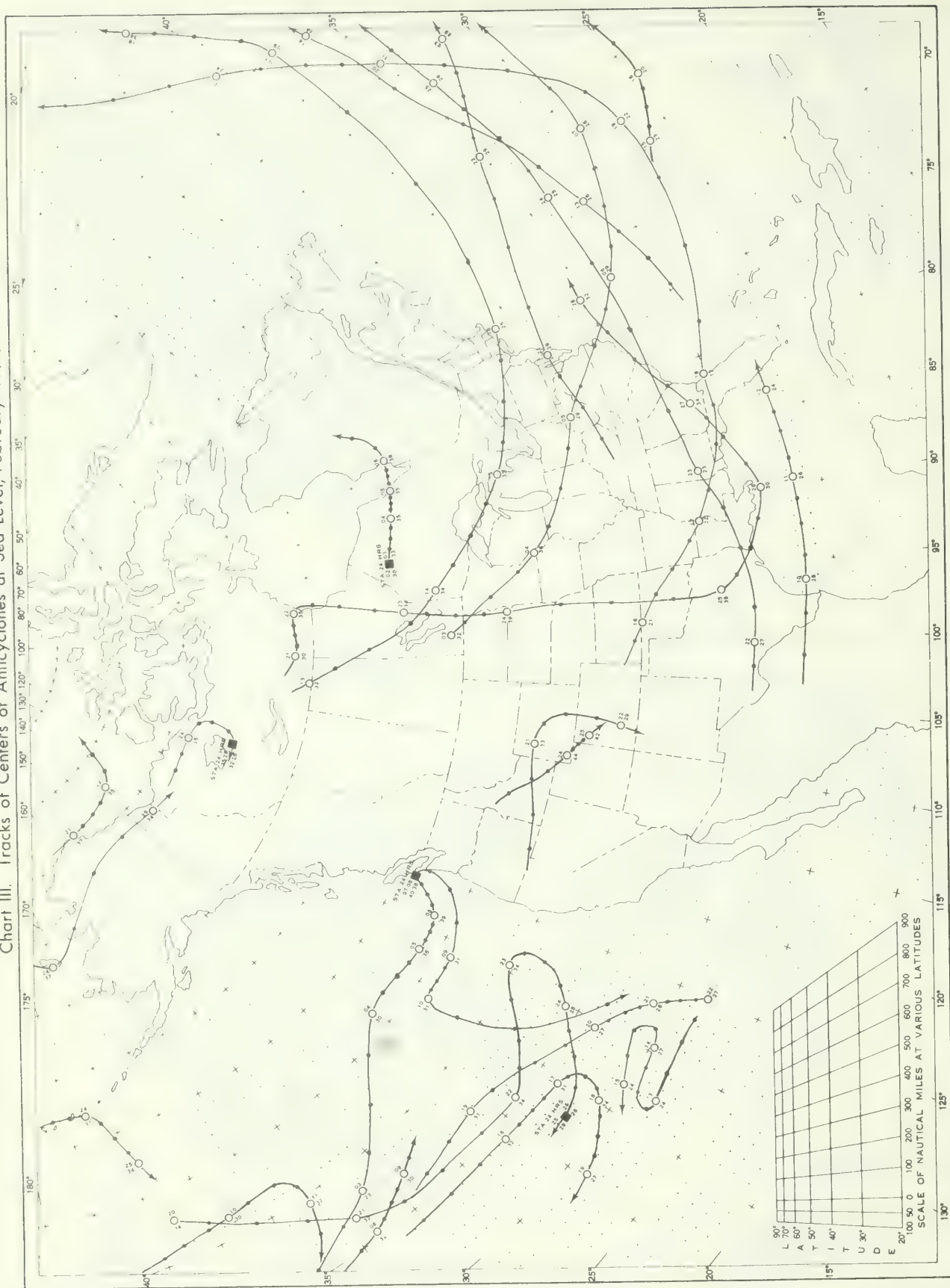


Chart III. Tracks of Centers of Anticyclones at Sea Level, February 1974



This map illustrates the magnetic field in the North Pacific Ocean in 1915. The isogons represent lines of equal magnetic intensity, with values ranging from 10 to 80. The map is bounded by 10°N to 60°N latitude and 120°E to 150°W longitude. The scale bar at the bottom right indicates distances in nautical miles (0 to 900) and includes a grid of latitude and longitude lines.

Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.



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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

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National Oceanic and Atmospheric Administration
Environmental Data Service

ARCH

1974

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No. 3

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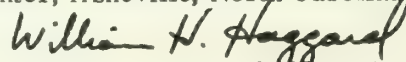
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NOTE: Late reports and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

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I certify that this is an official publication of the National Oceanic and Atmospheric Administration, and is compiled from records on file at the National Climatic Center, Asheville, North Carolina, 28801.


 Director, National Climatic Center

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

MARCH 1974

GENERAL SUMMARY OF WEATHER CONDITIONS

Dr. Richard E. Felch, Climatologist

HIGHLIGHTS: A warm month everywhere with considerable moisture in the Northeast, Northwest, and central Great Plains. The Southeast and Southwest were much drier than usual.

PRECIPITATION: Patterns of precipitation amounts were highly variable during March. Unusually heavy precipitation was limited to the Pacific Northwest and southern Texas. As much as 21 inches of rain fell along the Washington coast.

The month began on a wild and wet note. A cold front stretching from a low over eastern Canada to Texas collided with warm tropical air and brought 25 to 45 m.p.h. winds to the Great Lakes area and generated thunderstorms and heavy rain. Hail lashed the Country's midsection. In addition, a vigorous storm drenched sections of California and Arizona with 2 inches of precipitation at the end of the first decade.

The second full week of the month was marked by heavy rain and violent weather in many parts of the Country. The Pacific coast received an additional 2 to 7 inches of rain. Southern Florida also received some heavy rains; West Palm Beach, 2.40, and Miami, 2.20. Thunderstorms dumped much needed rain over southcentral Texas. Violent weather associated with a low over Tennessee dropped hail the size of eggs in Bristol, while tornadoes touched down near Charleston, S. C., and Glenville, Ga.

During the week ending on the 24th, the major weather was associated with a low that formed over Texas and gradually moved up through New England. While over Texas, it stirred up tornadoes, high winds, hail, and heavy rains along the Gulf Coast States. As the low moved into Pennsylvania, heavy rains

fell in sections of the mid-Atlantic States and snow in the Northeast. The storm drenched Boston, Mass., with 2.07 inches of rain, and dumped 15 inches of snow on Limestone, Me., before drifting into Canada.

The final week of March was extremely wet along the Pacific and Gulf Coasts. Weekly totals in the West included Astoria, Ore., 2.45; Eureka, Calif., 4.47; and San Francisco, 2.07. Throughout the week heavy precipitation, hail, high winds, and fog plagued the Gulf Coast. Over 5 inches fell at New Orleans, La., and Pensacola, Fla. Gusts up to 65 m.p.h. were reported near Galveston, Tex.

TEMPERATURE: Except for North Dakota, the upper Great Lakes area and portions of New England and New York, the entire Nation was warmer than normal.

The first half of the month was much warmer than usual except in the western tier of States and in New England during the second full week. On the 2d, temperatures reached into the 70's across South Dakota and Iowa.

At midmonth a cold front invaded much of the Nation, sending temperatures to record lows for the first week in spring. The only areas remaining much above normal were along the coasts. On the 24th record lows were recorded: Kansas City, Mo., 15°; Dubuque, Iowa, -3°; and Duluth, Minn., -21°.

Temperatures warmed back to well above normal during the last week except across the northern Plains, the Great Lakes area, and the Northeast. The month ended with the extreme Northeast clear and cold, while record warmth reached into the southern Plains.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

MARCH 1974

STATE	Temperature						Precipitation					
	Monthly extremes						Monthly extremes					
	Station	Highest °F	Date	Station	Lowest °F	Date	Station	Greatest In.	Station	Least	In.	
Alabama	Whatley	92	9	2 Stations	20	22	Coden	6.95	Bessemer 3 SSW		1.55	
Alaska	5 Stations	56	31	Trims Camp	-59	11	Chignik	16.26	Barter Island WSO AP		7	
Arizona	Tacna 3 NE	96	18	Hawley Lake	-12	10	Sunflower 3 NNW	3.55	2 Stations		.00	
Arkansas	2 Stations	95	31	Gilbert	13	24	West Memphis	5.56	Texarkana FAA AP		.63	
California	Blythe	95	17	White Mountain 2	-10	30	Strawberry Valley	26.00	2 Stations		.00	
Colorado	La Junta	85	30	Taylor Park	-18	5	Berthoud Pass	6.14	Blanca		.03	
Connecticut	3 Stations	69	7	Norfolk 2 SW	7	14	North Guilford	7.06	2 Stations		3.53	
Delaware	Lewes 1 SW	77	7	Georgetown 5 SW	17	26	Milford 2 WSW	4.88	Newark University Farm		3.91	
Florida	5 Stations	94	28	Monticello 3 W	29	1	Wewahitchka	7.88	3 Stations		.00	
Georgia	5 Stations	92	11	Blairsville Exp Sta	21	1	Cartersville	5.15	Elberton 2 N		1.25	
Hawaii	Keawakaou Bch 260.2, Maui	90	6	Mauna Loa Slope Obs., Hawaii	26	3	Mount Waialeale 1047, Kauai	36.69	7 Stations		.00	
Idaho	Glenns Ferry	72	1	Island Park Dam	-25	20	Deadwood Dam	8.65	Chilly Barton Flat		.58	
Illinois	Cahokia	85	8	Mowocqua	-8	24	Marion 4 NNE	6.13	Rockford 6 ENE		1.58	
Indiana	Saint Meinrad	86	8	5 Stations	-6	25	Madison Sewage Plant	7.39	Portland 1 SW		2.12	
Iowa	Keokuk Lock and Dam 19	78	8	Elkader 5 SSW	-13	24	Augusta	3.91	Mapleton 4 NNW		.61	
Kansas	Cedar Vale	92	31	Colby 1 SW	-2	24	Pittsburg	9.61	Bremen		.36	
Kentucky	Jackson	85	9	Flemingsburg 1 SW	9	25	Freeburn 2 SW	8.70	Owensboro Dam 46		2.82	
Louisiana	3 Stations	93	31	Minden	29	25	Sheridan Fire Tower	9.08	Marksville		2.11	
Maine	Saco	69	7	Clayton Lake 2	-24	29	Greenville	5.64	Middle Dam		1.74	
Maryland	4 Stations	82	7	Bittinger 2 NW	5	25	La Plata 1 W	5.81	Cumberland		2.07	
Massachusetts	3 Stations	72	7	2 Stations	-4	29	Chesterfield	5.92	Chatham WSMO		1.75	
Michigan	Benton Harbor Airport	75	3	2 Stations	-20	25	Allegan Sewage Plant	6.39	Escanaba		.31	
Minnesota	Luverne	71	2	Thorhult 1 S	-41	24	Beaver	3.12	Warrroad		14	
Mississippi	8 Stations	90	31	3 Stations	21	23	Picayune	8.62	Hernando		2.06	
Missouri	2 Stations	90	31	Steelville 2 N	-15	24	Lamar	8.21	Lucerne		.65	
Montana	4 Stations	71	27	Cooke City	-26	20	Hebgen Dam	7.46	Powderville 8 NNE		.03	
Nebraska	Beatrice No 1	82	31	Wakefield	-7	21	Scottsbluff WSO AP	1.99	Merriman		.24	
Nevada	Sunrise Manr Las Vegas	88	17	Ruth	-12	4	Mount Rose Bowl	12.32	Valley of Fire St Pk		7	
New Hampshire	Windham 3 NW	72	7	First Conn Lake	-25	29	Mount Washington	15.96	Lancaster		2.41	
New Jersey	Chatsworth	78	4	2 Stations	10	14	Greenwood Lake	6.29	Blackwells Mills		3.51	
New Mexico	Jal	97	30	Eagle Nest	-3	12	Chacon	2.07	6 Stations		.00	
New York	Fredonia	74	3	2 Stations	-13	29	Little Valley	6.53	Naples		1.47	
North Carolina	8 Stations	90	11	Grandfather Mountain	12	17	Manteo 2 WNW	6.62	Gastonia		2.25	
North Dakota	Mott	69	17	Hannah 2 N	-36	23	Selfridge 2 NE	1.03	Mohall		.05	
Ohio	7 Stations	82	9	2 Stations	-11	25	Ripley Exp Farm	5.82	Middlebourne		1.35	
Oklahoma	2 Stations	98	31	Helena 1 SSE	9	21	Hulah Dam	11.16	Camargo		.53	
Oregon	2 Stations	75	24	Chemult	-14	8	Port Orford 5 E	24.40	Enterprise		.62	
Pennsylvania	3 Stations	79	5	Corry	-7	25	Bethlehem	7.45	Johnstown		1.96	
Puerto Rico-VI	San Sebastian 2 WNW, P R	95	23	Adjuntas Substation, P R	47	29	Pico Del Este, P.R.	11.08	Bayaney, P R.		.35	
Rhode Island	Providence WSO AP	70	4	North Scituate 4 W	10	29	Woonsocket	5.98	Block Island WSO AP		3.58	
South Carolina	2 Stations	93	10	Winnsboro 1 W	21	1	Salem	5.97	Ware Shoals		1.57	
South Dakota	Kennebec	84	2	Webster Water Dept	-17	24	Wessington Springs	2.00	Dakota		.15	
Tennessee	3 Stations	85	31	Mountain City No 2	11	14	Sparta	7.67	Wadsworth		2.02	
Texas	Zapata	105	31	Bravo	10	24	Angleton 2 W	9.02	5 Stations		.00	
Utah	Hanksville	81	17	Pine View Dam	-9	4	Alta	5.82	Dewey		.00	
Vermont	4 Stations	64	7	West Burke	-18	30	Mount Mansfield	6.20	Huntington Center		2.62	
Virginia	Boydins	89	8	2 Stations	10	13	North Fork Lake	6.92	Luray 5 E		1.60	
Washington	2 Stations	74	27	2 Stations	-5	14	Spruce	24.88	Richland		.58	
West Virginia	2 Stations	84	10	Terra Alta No 1	7	26	Kopperston	7.09	Romney 1 SW		1.34	
Wisconsin	Kenosha	73	3	Gordon	-23	24	Milwaukee N Side	4.58	Eagle River		.06	
Wyoming	Yoder	73	17	Lake Yellowstone	-37	20	Moran 5 WNW	5.52	Sand Draw		.00	

CLIMATOLOGICAL DATA

METRIC UNITS

MARCH 1974

State and Station	Elevation (ground)	Pressure		Temperature										Precipitation					Wind				No. of days (sunrise to sunset)	Sky cover, tenths (sunrise to sunset)	%								
		Station	Sea level	Average maximum	Average minimum	Average		Departure from normal	Highest	Lowest	Date	Max $\geq 32^{\circ}$ or above	Min 0° or lower	No. of days	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	No. of days	Snow, ice pellets	Maximum depth on ground	Resultant speed				Resultant direction	Speed	Direction	Date	Fastest mile (1.6 kilometers)			
ALABAMA																																	
BIRMINGHAM	189	994.7	1016.9	22.7	9.7	16.2	4.4	26.1	8	-0.4	22	0	2	0	10.0	62	-95	22	9	5	0	208	4.8	36	12.5	35	7	6	19	4.9	45		
HUNTSVILLE	190	994.7	1016.9	22.7	9.7	16.2	4.4	26.1	8	-0.4	22	0	2	0	10.0	62	-95	22	9	5	0	208	4.8	36	12.5	35	7	6	19	4.9	45		
MOBILE	64	1009.5	1017.5	22.7	13.2	17.9	3.7	27.2	10	3.9	22	0	0	0	12.8	156	-23	71	10	4	0	0	0	0	0	0	0	0	0	0	0	0	
MONTGOMERY	56	1010.2	1017.5	22.7	9.7	16.2	4.4	26.1	8	-0.4	22	0	2	0	10.0	68	-85	25	8	5	0	0	0	0	0	0	0	0	0	0	0	0	
ALASKA																																	
ANCHORAGE	35	1001.1	1008.0	0.1	-9.8	-4.8	-0.2	9.4	26	-32.8	5	0	0	0	-10.0	15	1	6	7	0	0	208	483	0.8	36	12.5	35	7	6	19	4.9	45	
BARROW	34	1001.4	1007.6	5.1	-0.8	-2.7	0.8	12.2	25	-9.4	7	0	0	0	-10.0	15	1	6	7	0	0	208	483	0.8	36	12.5	35	7	6	19	4.9	45	
BARTER ISLAND	12	1021.7	1024.3	-25.6	-32.9	-29.3	-0.3	-12.8	25	-42.2	9	0	0	0	-31.7	1	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BETHEL	38	1003.4	1009.2	-4.8	-14.1	-9.4	2.0	7.8	25	-42.8	8	0	0	0	-13.3	28	1	14	11	0	0	457	406	2.5	3	19.7	22	2	11	4	9	4.2	
BETHEL	196	1003.4	1009.2	-10.4	-24.1	-17.6	0.6	2.8	23	-42.8	8	0	0	0	-13.3	28	1	14	11	0	0	457	406	2.5	3	19.7	22	2	11	4	9	4.2	
BIG DELTA	286	1001.4	1005.0	-6.4	-21.1	-17.7	0.1	13.3	2	-18.3	7	0	0	0	-3.9	84	18	-31	6	2	0	0	150	102	1.0	14	23.2	2	10	11	4.9	45	
COLD BAY	29	1004.7	1005.7	1.7	-21.1	-17.7	0.1	13.3	2	-18.3	7	0	0	0	-3.9	84	18	-31	6	2	0	0	150	102	1.0	14	23.2	2	10	11	4.9	45	
FAIRBANKS	133	996.6	1016.4	-6.8	-20.3	-13.6	1.1	7.2	22	-38.9	10	0	0	0	-20.6	57	7	5	3	0	0	178	559	1.4	36	10.3	3	12	12	8	11	4.9	
HELIKOPTER	479			-4.2	-19.8	-12.0	0.9	10.6	24	-38.3	10	0	0	0	-20.6	57	7	5	3	0	0	178	559	1.4	36	10.3	3	12	12	8	11	4.9	
HOOPER	19	1008.8	1009.5	1.3	-8.5	-3.3	-0.9	11.7	26	-38.9	10	0	0	0	-20.6	57	7	5	3	0	0	178	559	1.4	36	10.3	3	12	12	8	11	4.9	
JUNEAU	4	1008.8	1009.5	1.3	-8.5	-3.3	-0.9	11.7	26	-38.9	10	0	0	0	-20.6	57	7	5	3	0	0	178	559	1.4	36	10.3	3	12	12	8	11	4.9	
KING SALMON	15	1004.7	1006.6	-0.2	-9.4	-4.1	0.0	10.0	25	-24.6	7	0	0	0	-8.9	71	29	61	9	0	0	389	203	1.4	10	12.5	10	8	5	18	4.7	54	
KOTzebue	4	1001.7	1006.6	2.2	-2.8	-0.3	0.2	7.8	2	-34.6	11	0	0	0	-10.0	73	32	3	18	0	0	328	178	2.0	33	17.9	29	4	10	15	5.9	54	
KOTzebue	3	1016.6	1017.1	-13.7	-22.2	-17.9	0.1	0.6	26	-39.9	5	0	0	0	-21.7	71	1	7	1	0	0	20	341	0.2	5	17.0	21	3	17	4	10	4.3	
MC GRATH	105	999.0	1012.2	-6.6	-11.2	-8.9	1.1	5.0	19	-39.9	11	0	0	0	-16.1	65	24	2	17	5	0	348	864	1.0	36	11.6	2	10	6	15	5.9	54	
NOUVEAU	4	1012.5	1013.3	-8.1	-15.8	-11.9	1.7	2.8	25	-31.1	7	0	0	0	-4.4	89	19	13	5	21	0	142	178	3.2	4	17.4	2	11	7	16	5.6	54	
ST. PAUL ISLAND	732	920.8	1013.0	-8.1	-16.6	-12.3	0.7	1.7	20	-36.7	8	0	0	0	-4.4	89	19	13	5	21	0	142	178	3.2	4	17.4	2	11	7	16	5.6	54	
ST. PAUL ISLAND	105	920.8	1013.0	-8.1	-16.6	-12.3	0.7	1.7	20	-36.7	8	0	0	0	-4.4	89	19	13	5	21	0	142	178	3.2	4	17.4	2	11	7	16	5.6	54	
VALDEZ	5	1004.4	1007.5	-7.5	-16.2	-11.8	0.2	3.3	24	-37.8	7	0	0	0	-7.2	73	66	11	12	0	0	236	1219	4.7	6	12.5	3	9	13	3	15	5.7	54
VALDEZ	5	1004.4	1007.5	-7.5	-16.2	-11.8	0.2	3.3	24	-37.8	7	0	0	0	-7.2	73	66	11	12	0	0	236	1219	4.7	6	12.5	3	9	13	3	15	5.7	54
VALDEZ	5	1004.4	1007.5	-7.5	-16.2	-11.8	0.2	3.3	24	-37.8	7	0	0	0	-7.2	73	66	11	12	0	0	236	1219	4.7	6	12.5	3	9	13	3	15	5.7	54
VALDEZ	5	1004.4	1007.5	-7.5	-16.2	-11.8	0.2	3.3	24	-37.8	7	0	0	0	-7.2	73	66	11	12	0	0	236	1219	4.7	6	12.5	3	9	13	3	15	5.7	54
VALDEZ	5	1004.4	1007.5	-7.5	-16.2	-11.8	0.2	3.3	24	-37.8	7	0	0	0	-7.2	73	66	11	12	0	0	236	1219	4.7	6	12.5	3	9	13	3	15	5.7	54
VALDEZ	5	1004.4	1007.5	-7.5	-16.2	-11.8	0.2	3.3	24	-37.8	7	0	0	0	-7.2	73	66	11	12	0	0	236	1219	4.7	6	12.5	3	9	13	3	15	5.7	54
VALDEZ	5	1004.4	1007.5	-7.5	-16.2	-11.8	0.2	3.3	24	-37.8	7	0	0	0	-7.2	73	66	11	12	0	0	236	1219	4.7	6	12.5	3	9	13	3	15	5.7	54
VALDEZ	5	1004.4	1007.5	-7.5	-16.2	-11.8	0.2	3.3	24	-37.8	7	0	0	0	-7.2	73	66	11	12	0	0	236	1219	4.7	6	12.5	3	9	13	3	15	5.7	54
VALDEZ	5	1004.4	1007.5	-7.5	-16.2	-11.8	0.2	3.3	24	-37.8	7	0	0	0	-7.2	73	66	11	12	0	0	236	1219	4.7	6	12.5	3	9	13	3	15	5.7	54
VALDEZ	5	1004.4	1007.5	-7.5	-16.2	-11.8	0.2	3.3	24	-37.8	7	0	0	0	-7.2	73	66	11	12	0	0	236	1219	4.7	6	12.5	3	9	13	3	15	5.7	54
VALDEZ	5	1004.4	1007.5	-7.5	-16.2	-11.8	0.2	3.3	24	-37.8	7	0	0	0	-7.2	73	66	11	12	0	0	236	1219	4.7	6	12.5	3	9	13	3	15	5.7	54
VALDEZ	5	1004.4	1007.5	-7.5	-16.2	-11.8	0.2	3.3	24	-37.8	7	0	0	0	-7.2	73	66	11	12	0	0	236	1219	4.7	6	12.5	3	9	13	3	15	5.7	54
VALDEZ	5	1004.4	1007.5	-7.5	-16.2	-11.8	0.2	3.3	24	-37.8	7	0	0	0	-7.2	73	66	11	12	0	0	236	1219	4.7	6	12.5	3	9	13	3	15	5.7	54
VALDEZ	5	1004.4	1007.5	-7.5	-16.2	-11.8	0.2	3.3	24	-37.8	7	0	0	0	-7.2	73	66	11	12	0	0	236	1219	4.7	6	12.5	3	9	13	3	15	5.7	54
VALDEZ	5	1004.4	1007.5	-7.5	-16.2	-11.8	0.2	3.3	24	-37.8	7	0	0	0	-7.2	73	66	11	12	0	0	236	1219	4.7	6	12.5	3	9	13	3	15	5.7	54
VALDEZ	5	1004.4	1007.5	-7.5	-16.2	-11.8	0.2	3.3	24	-37.8	7	0	0	0	-7.2	73	66	11	12	0	0	236	1219	4.7	6	12.5	3	9	13	3	15	5.7	54
VALDEZ	5	1004.4	1007.5	-7.5	-16.2	-11.8	0.2	3.3	24	-37.8	7	0	0	0	-7.2	73	66	11	12	0	0	236	1219	4.7	6	12.5	3						

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State and Station	Elevation (ground)	Pressure		Temperature										Precipitation					Wind				No. of days (sunrise to sunset)	Sky cover, tenths (sunrise to sunset)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days		Greatest in 24 hours	Departure from normal	Total	With thunderstorms	No. of days	Snow, ice pellets	Maximum depth on ground	Resultant speed	Resultant direction			Speed (1.6 kilometers)	Direction	Date																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
												Max 32.2 °C or above	Min. 0 °C or lower															Average relative humidity	Total	Departure from normal	Greatest in 24 hours	With thunderstorms	No. of days	Snow, ice pellets	Maximum depth on ground	Resultant speed	Resultant direction	Speed (1.6 kilometers)	Direction	Date																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
																																									Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	With thunderstorms	No. of days	Snow, ice pellets	Maximum depth on ground	Resultant speed	Resultant direction	Speed (1.6 kilometers)	Direction	Date																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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mb	mb	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

CLIMATOLOGICAL DATA

METRIC UNITS

METRIC UNITS

MARCH 1974

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CLIMATOLOGICAL DATA

METRIC UNITS

WAPGH 1974

State and Station	Elevation (ground)	Pressure		Temperature						Precipitation				Wind			No. of days (sunrise to sunset)		Possible sunshine									
		Station Q	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Lowest	Date	No. of days		Greatest in 24 hours	With thunderstorms	No. of days	Snow, ice pellets	Resultant speed	Resultant direction		Speed (1.6 kilometers)	Direction	Date	Clear, 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover, tenths (sunrise to sunset)		
											Max 32.2 °C or above	Min. 0 °C or lower															Average dew point	Average relative humidity
SOUTH CAROLINA	12	1015.6	1017.4	23.1	10.3	16.7	3.1	32.2	10	0.0	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
	CHARLESTON U	3	965.8	1013.5	7.1	-4.6	1.2	25.8	2	-17.8	24	0	27	-4.4	7.1	0	0	41	16.1	15	13	3	6	22	7.6	61		
	COLUMBIA	65	1008.8	24.1	8.8	13.5	4.2	32.8	10	-0.6	18	1	2	7.8	6.3	1.0	1.3	27	13.4	24	21	7	13	11	5.9	77		
	GRUNVILLE-SERTNBPG	292	981.4	20.6	5.9	13.3	2.8	28.9	10	-3.9	18	0	8	5.0	6.2	1.0	1.3	25	15.2	W	30	1	11	19	7.6			
SOUTH DAKOTA	395	965.8	1014.0	4.4	-6.0	-0.8	1.9	15.6	54	-21.1	24	0	29	-7.2	6.6	0	0	19	14.3	16	13	5	9	17	7.3			
	ABERDEEN	390	965.8	1013.5	7.1	-4.6	1.2	25.8	2	-17.8	24	0	27	-4.4	7.1	0	0	41	16.1	15	13	3	6	22	7.6	61		
	HURON	964	899.8	1012.2	10.9	-4.7	3.1	23.3	284	-16.1	24	0	26	-7.2	5.3	0	0	9	21.0	N	8	5	11	15	4.9	77		
	ST. LOUIS FALLS	432	961.7	1014.3	7.5	-4.7	1.4	25.3	2	-17.8	24	0	26	-5.0	6.8	0	0	42	13.0	31	23	1	11	19	7.6			
TENNESSEE	459	961.4	1016.0	16.6	4.7	10.7	3.0	25.0	9	-3.9	18	0	7	5.0	7.2	0	0	110	13.0	24	30	5	4	20	7.5			
	BRISTOL	203	991.5	1016.5	19.2	5.7	12.5	2.6	27.2	10	-2.2	22	0	2	6.1	6.9	0	0	187	13.0	NW	30	5	9	17	4.8	52	
	CHATTANOOGA	299	981.0	1016.0	18.4	7.4	12.9	2.9	28.1	9	-1.1	22	0	2	6.1	6.6	0	0	156	15.6	NW	30	6	5	20	7.4	51	
	KNOXVILLE	79	1005.4	1015.8	20.3	9.3	15.8	4.3	30.6	31	-3.3	24	0	3	10.4	7.5	0	0	186	20.4	19	4	4	9	18	7.5	61	
TEXAS	180	993.9	1015.8	18.8	6.7	12.7	3.4	27.8	9	-4.4	24	0	5	6.7	7.4	0	0	133	16.5	W	29	5	8	18	7.2	49		
	OAK RIDGE R	276	993.9	17.8	6.1	12.0	3.3	26.7	9	-2.8	22	0	5	6.7	7.4	0	0	183	20.1	W	30	3	7	18	7.5			
	ARLINGTON	544	949.9	1012.1	24.3	9.6	17.0	4.5	36.1	31	-3.3	24	4	4	6.1	6.8	0	0	18	14.8	N	20	7	10	14	4.4	77	
	AMARILLO	1098	887.2	1010.1	19.8	3.6	11.7	4.2	30.0	30	-7.2	24	0	8	-1.1	5.1	0	0	35	13.4	NE	10	11	8	16	4.4	73	
UTAH	182	992.2	1014.0	24.9	13.3	19.2	3.9	33.3	30	0.6	24	3	0	12.9	7.1	0	0	122	12.5	S	31	5	7	8	16	4.5	52	
	BOWSVILLE	12	1012.2	1013.9	26.0	17.0	21.5	3.2	33.3	29	6.1	24	1	0	18.3	8.0	0	0	122	16.1	S	31	5	7	8	16	4.5	52
	CORPUS CHRISTI	164	993.6	1014.1	23.3	11.0	17.2	4.4	35.6	31	-0.6	24	2	2	18.3	8.5	0	0	122	17.9	SE	31	5	10	16	7.7	58	
	DALLAS-FORT WORTH	313	976.1	1012.0	27.1	13.8	24.4	3.4	37.2	31	-0.6	24	5	0	12.2	6.6	0	0	35	12.0	SE	31	5	10	16	7.7	58	
VIRGINIA	1194	880.1	1011.0	24.6	6.1	15.3	2.8	30.0	18	-3.9	11	0	3	-5.0	2.6	0	0	71	12.0	W	32	20	4	8	19	7.2	93	
	GALVESTON U	2	1011.9	1015.6	21.1	16.4	18.8	2.7	27.2	29	3.9	24	0	0	14.4	7.7	0	0	107	13.4	W	30	15	9	7	4.2	49	
	HOUSTON INTERCON	992	900.4	1010.8	23.0	6.4	14.7	5.3	32.2	29	3.9	24	0	0	14.4	7.7	0	0	40	13.4	W	30	15	9	7	4.2	49	
	LUBBOCK	869	913.3	1010.7	26.0	8.1	17.1	4.7	32.8	30	-4.4	24	1	3	-0.4	4.5	0	0	124	23.7	32	10	11	10	5.1	86		
WASHINGTON	580	945.5	1011.6	26.1	10.4	18.3	4.3	30.6	29	-2.2	24	1	3	1.1	4.3	0	0	124	23.7	32	10	11	10	5.1	86			
	PORT ARTHUR	5	1015.2	23.9	14.1	19.0	3.4	30.6	29	-2.2	24	1	3	1.1	4.3	0	0	124	23.7	32	10	11	10	5.1	86			
	SAN ANGELO	240	986.1	1013.8	26.3	13.6	19.9	3.9	33.9	30	1.7	24	5	0	14.4	7.8	0	0	2.6	16.1	5	4	6	14	7.5	41		
	SAN ANTONIO	32	1010.2	1014.3	25.3	16.1	20.7	3.9	33.9	29	-4.4	25	1	0	13.3	7.1	0	0	1.9	14.3	32	20	6	14	7.5	41		
WISCONSIN	153	995.9	1013.9	24.1	12.1	18.1	4.1	31.3	31	0.0	24	2	1	10.4	6.7	0	0	44	16.1	N	30	5	3	19	7.0	43		
	WACO	24.1	976.3	1012.8	24.2	7.6	15.9	4.5	37.2	31	-2.8	21	4	5	6.7	6.2	0	0	2.7	15.6	34	21	9	17	14	4.6	46	
	WICHITA FALLS	303	976.3	1012.8	24.2	7.6	15.9	4.5	37.2	31	-2.8	21	4	5	6.7	6.2	0	0	1.9	17	35	20	9	17	14	4.6	46	
	HOUSTON	29	1011.9	1015.6	21.1	16.4	18.8	2.7	27.2	29	3.9	24	0	0	14.4	7.7	0	0	2.7	15.6	34	21	9	17	14	4.6	46	
UTAH	1533	843.6	1012.8	14.2	-1.7	6.3	2.9	22.2	17	-10.0	21	0	20	-2.2	5.4	0	0	11	12.5	SW	2	7	8	16	4.7	65		
	MILFORD	1286	868.9	1013.3	13.2	1.5	7.3	20.6	254	-8.9	4	0	9	-5.0	4.5	0	0	25	12.5	SW	2	7	8	16	4.7	65		
	SALT LAKE CITY	1291	867.3	1012.8	13.8	1.8	7.8	20.6	304	-6.7	4	0	9	-5.0	4.5	0	0	25	12.5	SW	2	7	8	16	4.7	65		
	WENDOVER	101	1001.0	1014.0	3.2	-6.3	0.1	17.2	7	-17.8	29	0	28	-10.0	5.5	0	0	69	12.5	NW	264	6	4	21	7.3	43		
VIRGINIA	279	981.7	1015.9	15.6	3.2	9.4	1.9	27.8	8	-6.7	24	0	9	3.2	6.1	0	0	75	12.5	W	31	6	10	15	6.9	60		
	LYNCHBURG	50	1004.9	1015.8	17.1	3.3	10.2	28.9	8	-1.7	26	0	8	2.2	6.3	0	0	131	12.5	W	31	6	10	15	6.9	60		
	NORFOLK	350	973.6	1015.7	12.4	4.3	10.4	3.1	27.2	8	-5.0	15	0	6	1.1	5.8	0	0	79	12.5	W	31	6	10	15	6.9	60	
	ROANOKE	3	981.7	1015.9	15.6	3.2	9.4	27.8	8	-6.7	24	0	9	3.2	6.1	0	0	75	12.5	W	31	6	10	15	6.9	60		
WASHINGTON	59	1004.7	1012.1	11.8	2.2	7.1	0.8	17.8	24	-5.6	7	0	7	3.9	8.2	0	0	169	12.5	W	31	6	10	15	6.9	60		
	OLYMPIA	55	1003.4	1011.0	9.6	1.5	-0.1	15.9	244	-3.9	6	0	13	3.3	8.7	0	0	555	12.5	W	31	6	10	15	6.9	60		
	QUILLAYUTE	6	995.6	1012.1	11.3	3.6	7.4	1.2	15.6	266	-1.7	7	0	3	2.2	4.8	0	0	145	12.5	W	31	6	10	15	6.9	60	
	SEATTLE	122	995.6	1012.1	11.6	4.3	7.9	1.2	15.6	264	-2.8	7	0	4	2.2	4.8	0	0	145	12.5	W	31	6	10	15	6.9	60	
WASHINGTON	718	926.9	1011.5	8.1	-0.8	3.6	0.6	16.1	26	-6.1	7	0	18	-2.2	7.0	0	0	56	12.5	SW	28	1	5	25	8.6	39		
	STAMPED PASS P	1206	872.7	1011.5	1.5	-3.7	-1.1	0.1	7.8	24	-11.7	7	0	28	-2.2	7.0	0	0	259	12.5	SW	1	0	11	20	8.3	42	

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State and Station	Elevation (ground)	Pressure		Temperature										Precipitation						Wind				No. of days (sunrise to sunset)			Possible sunshine (sunrise to sunset)							
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days		Total	Departure from normal	Greatest in 24 hours	With thunderstorms .25 mm. or more	No. of days	Snow, ice pellets		Resultant speed	Resultant direction	Speed (1.6 kilometers)					Direction	Date					
												Max 32.2 °C or above	Min. 0 °C or lower						Maximum depth on ground	Ice pellets														
																								°C	°C	°C				mm	mm	mm	mm	mm
WASHINGTON		mb	mb	°C	°C	°C	°C	°C	°C	°C	°C			mm	mm	mm	mm	mm	mm	mm	m/s	m/s	m/s											
WALLA WALLA U	289			13.2	3.7	8.4	0.9	21.7	26	-1.7	7	0	5	42	7	12	11	1	1	0	13.0						1	5	7	19	7.4	4.0		
YAKIMA	321	973.6	1012.6	13.0	-0.1	6.5	1.1	20.0	26	-6.7	20+	0	15	31	16	9	10	1	15	7	1.6	26				9	5	2	27	7.6				
WEST INDIES																																		
SAN JUAN P.R.	4	1014.9	1017.2	29.0	22.6	25.8	1.2	31.7	31+	20.0	13	0	0	49	-3	22	12	0	0	0	4.2	10	11.6	E	25+	5	24	2	2	4.9	82			
WEST VIRGINIA																																		
BECKLEY	763	926.5	1015.7	12.8	2.3	7.6	3.1	23.9	4	-9.4	14	0	14	125	17	26	16	4	64	25	2.0	23	23.7	26	30	2	4	25	8.2					
CHARLESTON	286	981.4	1015.7	15.8	3.2	9.5	2.6	27.2	9+	-7.2	25	0	8	115	13	29	15	4	23	7	1.5	26	15.6	32	21	3	6	22	8.2					
FLKINS	594	943.8		12.7	-1.1	5.8	2.1	23.9	4	-12.2	14	0	19	88	-11	21	17	4	48	7	1.3	26	12.5	25	5	3	4	24	8.0					
HUNTINGTON	252	985.1	1015.4	15.2	4.1	9.7	2.8	27.2	8	-7.8	25	0	7	113	10	31	16	5	25	7	1.3	26	12.5	25	5	3	6	22	8.2					
PARKERSBURG U	187			14.3	2.7	8.5	2.4	27.2	8	-10.0	25	0	11	73	-22	15	15		8	7	1.3	26	12.5	W	17							51		
WISCONSIN																																		
GREEN BAY	208	988.8	1015.2	2.6	-5.1	-1.3	0.6	16.1	3	-20.0	24	0	28	27	-15	8	12	1	284	152	0.4	30	14.3	W	3	4	8	19	7.5	36				
LA CROSSE	198	990.5	1015.8	4.7	-4.6	0.1	0.6	18.3	6	-18.3	24	0	28	54	3	24	16	4	193	54	0.2	27												
MADISON	262	982.4	1014.8	5.3	-4.1	0.6	1.6	19.4	3	-20.0	24	0	27	87	38	24	16	4	168	51	0.2	30	14.8	SW	3	3	6	22	8.0	45				
MILWAUKEE	205	989.2	1015.1	4.4	-2.4	1.0	1.3	20.6	3	-17.2	24	0	20	109	52	37	16	3	188	76	0.6	31	18.8	SW	22+	3	5	23	8.1	41				
WYOMING																																		
CASPER	1627	831.7	1011.2	9.3	-4.7	2.3	2.9	18.3	17	-20.0	20	0	25	9	-14	5	5	0	191	76	5.2	22	24.6	21	2	5	10	16	6.9					
CHEYENNE	1867	806.3	1011.3	8.9	-3.3	2.8	3.1	18.9	17	-17.2	24	0	21	31	5	11	9	0	414	152	4.1	28	24.1	W	2	7	8	16	4.7	59				
LANDER	1696	823.2	1011.2	8.9	-4.4	2.2	2.6	17.8	16	-17.8	20	0	24	14	-16	6	6	0	325	102	1.5	23	19.7	S	7	5	12	14	6.4	67				
SHERIDAN	1208	873.0	1011.9	9.3	-5.3	2.1	2.6	20.0	17	-18.9	22	0	23	24	-6	7	8	0	249	76	2.3	30	25.5	SW	2	3	9	19	7.5	56				

HEATING DEGREE DAYS

(Base 65°F.)

MARCH 1974

State and station	Current season		Normal July through this month	State and station	Current season		Normal July through this month	State and station	Current season		Normal July through this month	State and station	Current season		Normal July through this month
	This month	Period July through this month			This month	Period July through this month			This month	Period July through this month			This month	Period July through this month	
ALABAMA				IDAHO				NEBRASKA				SOUTH DAKOTA			
BIRMINGHAM	161	2002	2708	BOISE	687	4525	5004	GRAND ISLAND	691	5656	5740	ABERDEEN	1058	7627	7597
HUNTSVILLE	232	2314	3125	LEWISTON	637	4439	4707	LINCOLN	704	5444	5411	HURON	948	4792	7134
MOBILE	106	988	1444	POCATELLO	815	5806	5998	NORFOLK	783	5904	6241	RAPID CITY	840	5947	6259
MONTGOMERY	144	1539	2185					NORTH PLATTE	765	5990	5918	SIOUX FALLS	939	6623	6947
ALASKA				ILLINOIS				OMAHA	702	5480	5490				
ANCHORAGE	1285	9613	9125	CAIRO U	398	3219	3619	SCOTTSDUFF	801	5875	5839	TENNESSEE			
ANNETTE	867	6339	5485	CHICAGO O HARE	812	5240	5726	VALENTINE	855	6026	6378	BRISTOL	424	3132	3938
BADEN	2448	15391	15096	CHICAGO MIDWAY	803	5237	5440					CHATTANOOGA	322	2648	3249
BADGER ISLAND	2662	15683	15759	MOLINE	812	5544	5745	FLKO	734	5479	6242	KNOXVILLE	304	2643	3258
BETHEL	1569	10892	10814	PEORIA	736	5234	5485	ELY	809	6227	6392	MEMPHIS	235	2353	3074
BETTLES	2004	12282	13598	ROCKFORD	887	5770	6073	LAS VEGAS	188	2336	2465	NASHVILLE	320	2723	3475
BIG DELTA	1749	12799	11793	SPRINGFIELD	662	4682	5051	PENO	680	4704	5003	OAK RIDGE R	347	2990	3647
COLD BAY	1113	7736	7529	INDIANA				WINNEMUCCA	666	4881	5524				
FAIRBANKS	1778	12894	12502	EVANSVILLE	480	3609	4266					ABILENE	181	2100	2495
GILKANA	1692	12362	11904	FORT WAYNE	804	5237	5499	NEW HAMPSHIRE	1025	6351	6363	AMARILLO	368	3366	3817
HUMER	1201	8809	8271	INDIANAPOLIS	617	4385	5020	MT WASHINGTON OBS	1747	10855	11051	AUSTIN	108	1340	1693
JUNEAU	1242	8178	7306	SOUTH BEND	780	4956	5675					BROWNSVILLE	40	478	650
KING SALMON	1292	9543	9444									CORPUS CHRISTI	56	695	930
KODIAK	1033	7537	6882	IOWA				NEW JERSEY				DEL RIO	53	1093	1507
KOTZEBUE	2025	13214	12774	BURLINGTON	749	5268	5545	ATLANTIC CITY	632	3906	4407	FL PASO	178	2397	2549
MC GRATH	1709	10109	7339	DES MOINES	775	5535	6033	ATLANTIC CITY U	655	3710	4063	FORT WORTH	173	1909	2294
NOHE	1685	11903	11421	DUBUQUE	946	6264	6466	NEWARK	661	3941	4492	GALVESTON U	61	766	1204
ST. PAUL ISLAND	1204	8466	8368	SIOUX CITY	783	5746	6257	TRENTON U	692	4066	4428	HOUSTON INTERCON	95	1144	1411
SUMMIT	1708	12579	11787	WATERLOO	985	6353	6619	NEW MEXICO				LUBBOCK	223	2658	3326
TALKEETNA	1407	9580	9801	KANSAS				ALBUQUERQUE	373	3951	3952	MIDLAND	121	2066	2523
UNALASKA FET	1682	12871	11402	CONCORDIA	606	4878	5070	CLAYTON	528	4177	4566	PORT ARTHUR	85	1141	1485
YAKUTAT	1196	8150	7534	ODGE CITY	510	4298	4566	ROSWELL	233	2864	3492	SAN ANGELO	115	1701	2166
ARIZONA				GOODLAND	715	5240	5359					SAN ANTONIO	74	1248	1539
FLAGSTAFF	754	5431	5954	TOPKA	558	4616	4783	NEW YORK				VICTORIA	70	843	1212
PHOENIX	77	1088	1492	WICHITA	529	4277	4315	ALBANY	1005	6028	6053	WACO	145	1672	2002
TUCSON	161	1603	1671	KENTUCKY				BINGHAMTON	1016	5832	6281	WICHITA FALLS	212	2303	2779
WINSLOW	505	4259	4247	COVINGTON	591	4147	4582	BUFFALO	989	5683	5945	UTAH			
YUMA	69	904	981	LEXINGTON	514	3589	4313	NEW YORK U	704	4026	4324	MILFORD	667	5657	5522
ARKANSAS				LOUISVILLE	487	3440	4249	NEW YORK KENNEDY	686	4257	4534	SALT LAKE CITY	603	4900	5184
FORT SMITH	304	2876	3187					NEW YORK LA GUARDIA	713	4002	4365	WENDOVER	580	4919	5125
LITTLE ROCK	258	2482	3194	LOUISIANA				ROCHESTER	983	5513	5821	VERMONT			
CALIFORNIA				ALEXANDRIA	107	1515	2129	SYRACUSE	1004	5749	5805	RURLINGTON	1101	6658	6822
BAKERSFIELD	174	1664	2023	BATON ROUGE	70	1022	1637					VIRGINIA			
BISHOP	488	3901	3793	LAKE CHARLES	81	1072	1472	ASHEVILLE	423	3076	3844	LYNCHBURG	495	3372	3888
BLUE CANYON	808	4851	4449	NEW ORLEANS	71	915	1436	CAPE MATTERAS R	276	1711	2496	NORFOLK	377	2491	3209
EUREKA U	455	3573	3538	SHREVEPORT	152	1832	2097	CHARLOTTE	320	2568	3039	RICHMOND	455	3061	3649
FRESNO	240	2218	2478	MAINE				GREENSBORO	403	3112	3563	ROANOKE	440	3204	3923
LONG BEACH	234	1354	1364	CARIBOU	1359	8143	8139	RALEIGH	366	2571	3286	WALLOPS ISLAND	560	3750	3793
LOS ANGELES	256	1178	1419	PORTLAND	958	5877	6342	WILMINGTON	209	1570	2329				
LOS ANGELES U	171	970	1036	MARYLAND								WASHINGTON			
MT SHASTA R	761	4979	4780	BALTIMORE	611	3932	4279	NORTH DAKOTA				OLYMPIA	625	4534	4488
OAKLAND	365	2552	2332					BISMARCK	1167	8213	7923	QUILLAYUT	705	4900	4647
RED BLUFF	340	2459	2398	MASSACHUSETTS				FARGO	1298	8491	8159	SEATTLE	600	3893	3676
SACRAMENTO	332	2373	2476	BLUE HILL OBS R	879	5224	5449	WILLISTON	1204	8061	8003	SEATTLE-TACOMA	573	3936	4216
SANBROOK R	432	3750	3649	BOSTON	800	4549	4884					SPOKANE	814	5617	5797
SAN DIEGO	176	946	1232	WORCESTER	969	5708	5901	OHIO				STAMPEDE PASS R	1075	7583	7362
SAN FRANCISCO	354	2498	2421	MICHIGAN				CINCINNATI ABF OB	588	3906	4412	WALLA WALLA U	547	3940	4241
SAN FRANCISCO U	354	2520	2338	ALPENA	1146	6882	7166	CLEVELAND	777	4697	5369	YAKIMA	652	4880	5211
SANTA MARIA	373	2441	2338	DETROIT	874	5225	5457	COLUMBUS	628	4354	5095				
STOCKTON	309	2272	2510	DETROIT METRO	901	5447	5620	DAYTON	691	4579	5049	WEST VIRGINIA			
COLORADO				FLINT	924	5738	6097	MANSFIELD	847	4752	5143	BECKLEY	594	4109	4944
ALAMOSA	839	7334	7284	GRAND RAPIDS	967	8806	5932	TOLEDO	885	5513	5672	CHARLESTON	500	3530	4180
COLORADO SPRINGS	700	5138	5505	HOUGHTON LAKE	1171	6882	7145	YOUNGSTOWN	878	5207	5607	F.K.T.NS	692	4651	5217
DENVER	671	5061	5158	LANSING	949	5913	6021	OKLAHOMA				HUNTINGTON	501	3490	4205
GRAND JUNCTION	513	5381	5048	MARQUETTE U	1180	6901	6969	OKLAHOMA CITY	330	3110	3479	PARKERSBURG U	551	3812	4369
PUEBLO	552	4579	4813	MUSKOGON	989	5872	5919	TULSA	341	3169	3476				
CONNECTICUT				SAULT STE MARIE	1330	7771	7693					WISCONSIN			
BRIDGEPORT	765	4282	4714	MINNESOTA				OREGON				GREEN BAY	1087	6734	7033
HARTFORD	869	5105	5581	DULUTH	1373	8486	8286	ASTORIA	623	4313	4130	LA CROSSE	1011	6409	6632
DELAWARE				INTERNATIONAL FALLS	1493	9038	9113	BURNS U	866	5731	5981	MADISON	979	6440	6770
WILMINGTON	635	3910	4431	MINNEAPOLIS	1092	7025	7226	EUGENE	477	3716	3876	MILWAUKEE	959	5928	6397
DIST. OF COLUMBIA				ROCHESTER	1098	7094	7242	MEACHAM	979	6468	6257				
WASHINGTON DULLES	631	4135	4517	ST CLOUD	1235	7739	7796	MEDFORD	620	3747	4142	WYOMING			
WASHINGTON NATIONAL	490	3097	3874	MISSISSIPPI				PENDLETON	573	4099	4327	CASPER	885	6320	6351
FLORIDA				JACKSON	165	1631	2220	PORTLAND	545	3667	3968	CHEYENNE	862	5918	6036
APALACHICOLA	61	762	1331	MERIDIAN	125	1461	2302	SALEM	580	3991	3968	LANDER	893	6489	6674
DAYTONA BEACH	30	491	880					SEXTON SUMMIT R	881	5720	4991	SHERIDAN	902	6277	6523
FORT MYERS	1	233	457	MISSOURI				PENNSYLVANIA							
JACKSONVILLE	82	865	1303	COLUMBIA REGIONAL	566	4422	4636	ALLENTOWN	755	4638	5163				
KEY WEST	0	41	44	KANSAS CITY	559	4535	4724	ERIE	915	5277	5829				
ORLANDO	15	3530	720	ST JOSEPH	568	4641	4979	HARRISBURG	683	4218	4726				
LAKELAND U	6	373	669	ST LOUIS	539	4254	4365	PHILADELPHIA	667	4021	4376				
MIAMI															

COOLING DEGREE DAYS

(Base 65°F.)

March 1977

State and station	Current season		Normals January through this month	State and station	Current season		Normals January through this month	State and station	Current season		Normals January through this month					
	This month	Period January through this month			This month	Period January through this month			This month	Period January through this month						
ALABAMA				HAWAII				NEBRASKA				SOUTH CAROLINA				
BIRMINGHAM	52	59		HILO	261	779		GRAND ISLAND	0	0		CHARLESTON	63	111		
HUNTSVILLE	15	15		HONOLULU	285	855		LINCOLN	0	0		CHARLESTON U	74	115		
MOBILE	91	195		KAHULUI	250	756		NORFOLK	0	0		COLUMBIA	65	102		
MONTGOMERY	56	76		LIHUE	272	844		NORTH PLATTE	0	0		GRNVLE-SPRTNBRG	17	18		
ALASKA				IDAHO				OHAMA	0	0		SOUTH DAKOTA				
ANCHORAGE	0	0		BOISE	0	0		SCOTTSBLUFF	0	0		ABERDEEN	0	0		
ANNETTE	0	0		LEWISTON	0	0		VALENTINE	0	0		HURON	0	0		
BARROW	0	0		POCATELLO	0	0		NEVADA				RAPID CITY	0	0		
BARTER ISLAND	0	0						ELKO	0	0		SIOUX FALLS	0	0		
BETHEL	0	0		ILLINOIS				ELY	0	0		TENNESSEE				
BETTLES	0	0		CAIRO U	12	12		LAS VEGAS	24	24		BRISTOL	0	0		
BIG DELTA	0	0		CHICAGO O HARE	0	0		RENO	0	0		CHATTANOOGA	3	3		
COLD BAY	0	0		CHICAGO MIDWAY	0	0		WINNEMUCCA	0	0		KNOXVILLE	9	9		
FAIRBANKS	0	0		MOBILE	0	0						MEMPHIS	46	52		
GULKANA	0	0		PEORIA	0	0		NEW HAMPSHIRE				NASHVILLE	16	16		
HOMER	0	0		ROCKFORD	0	0		CONCORD	0	0		OAK RIDGE R	1	1		
JUNEAU	0	0		SPRINGFIELD	7	7		MT WASHINGTON OBS	0	0		TEXAS				
KING SALMON	0	0						NEW JERSEY				ABILENE	113	120		
KODIAK	0	0		INDIANA				ATLANTIC CITY	0	0		AMARILLO	6	6		
KOTZEBUE	0	0		EVANSVILLE	26	26		ATLANTIC CITY U	0	0		AUSTIN	160	187		
MC GRATH	0	0		FORT WAYNE	0	0		NEWARK	0	0		BROWNVILLE	299	457		
ROME	0	0		INDIANAPOLIS	11	11		TRENTON U	0	0		CORPUS CHRISTI	241	355		
ST. PAUL ISLAND	0	0		SOUTH BEND	0	0						DEL RIO	178	190		
SUMMIT	0	0		IOWA				NEW MEXICO				EL PASO	19	19		
TALKEETHA	0	0		BURLINGTON	0	0		ALBUQUERQUE	0	0		FORT WORTH	115	117		
UNALAKLEET	0	0		DES MOINES	0	0		CLAYTON	0	0		GALVESTON U	94	118		
YAKUTAT	0	0		DUBUQUE	0	0		ROSWELL	11	11		HOUSTON INTERCON	158	215		
ARIZONA				SIOUX CITY	0	0						LUBBOCK	30	30		
FLAGSTAFF	0	0		WATERLOO	0	0		NEW YORK				MIDLAND	48	58		
PHOENIX	69	71						ALBANY	0	0		PORT ARTHUR	130	172		
TUCSON	18	18		KANSAS				BINGHAMTON	0	0		SAN ANGELO	120	127		
WINSLOW	0	0		CONCORDIA	0	0		BUFFALO	0	0		SAN ANTONIO	171	204		
YUMA	88	88		RODGE CITY	1	1		NEW YORK U	0	0		VICTORIA	207	265		
ARKANSAS				GOODLAND	0	0		NEW YORK KENNEDY	0	0		WACO	138	143		
FORT SMITH	43	43		TOPEKA	6	6		NEW YORK LA GUARDIA	0	0		WICHITA FALLS	85	85		
LITTLE ROCK	45	45		WICHITA	4	4		ROCHESTER	0	0		UTAH				
CALIFORNIA				KENTUCKY				SYRACUSE	0	0		MILFORD	0	0		
BAKERSFIELD	12	12		COVINGTON	8	8			NORTH CAROLINA			SALT LAKE CITY	0	0		
BISHOP	0	0		LEXINGTON	10	10		ASHEVILLE	0	0		WENDOVER	0	0		
BLUE CANYON	0	0		LOUISVILLE	22	22		CAPE HATTERAS R	13	20		VERMONT				
EUREKA U	0	0					CHARLOTTE	20	20		BURLINGTON	0	0			
FRESNO	0	0		LOUISIANA			GREENSBORO	8	8		VIRGINIA					
LONG BEACH	0	0		ALEXANDRIA	137	174		PALEIGH	25	25		LYNCHBURG	3	3		
LOS ANGELES	0	3		BATON ROUGE	142	220		WILMINGTON	52	77		NORFOLK	16	19		
LOS ANGELES U	8	16		LAKE CHARLES	126	177			NORTH DAKOTA			RICHMOND	10	10		
MT SHASTA R	0	0		NEW ORLEANS	147	245		BISMARCK	0	0		ROANKEE	7	7		
OAKLAND	0	0		SHREVEPORT	115	128		FARGO	0	0		WALLOPS ISLAND	0	0		
RED BLUFF	0	0		MAINE			WILLISTON	0	0		WASHINGTON					
SACRAMENTO	0	0		CARIBOU	0	0			OHIO			OLYMPIA	0	0		
SANDBERG R	0	0		PORTLAND	0	0		AKRON	0	0		QUILLAYUTE	0	0		
SAN DIEGO	0	0						CINCINNATI ABBE OB	13	13		SEATTLE	0	0		
SAN FRANCISCO	0	0		MARYLAND				CLEVELAND	0	0		SEATTLE-TACOMA	0	0		
SAN FRANCISCO U	0	0		BALTIMORE	4	4		COLUMBUS	4	4		SPOKANE	0	0		
SANTA MARIA	0	0					DAYTON	0	0		STAMPEDE PASS R	0	0			
STOCKTON	0	0		MASSACHUSETTS			MANSFIELD	0	0		WALLA WALLA U	0	0			
COLORADO				BLUE HILL OBS R	0	0		TOLFO	0	0		YAKIMA	0	0		
ALAMOSA	0	0		BOSTON	0	0		YOUNGSTOWN	0	0		WEST INDIES				
COLORADO SPRINGS	0	0		WORCESTER	0	0			OKLAHOMA			SAN JUAN P.R.	424	1182		
DENVER	0	0		MICHIGAN				OKLAHOMA CITY	22	22		WEST VIRGINIA				
GRAND JUNCTION	0	0		ALPENA	0	0		TULSA	47	47		BECKLEY	1	1		
PUEBLO	0	0		DETROIT	0	0			OREGON			CHARLESTON	14	14		
CONNECTICUT				DETROIT METRO	0	0		ASTORIA	0	0		ELKINS	0	0		
BRIDGEPORT	0	0		FLINT	0	0		BURNS U	0	0		HUNTINGTON	21	21		
HARTFORD	0	0		GRAND RAPIDS	0	0		EUGENE	0	0		PARKERSBURG U	13	13		
DELAWARE				HOUGHTON LAKE	0	0		MEACHAM	0	0		WISCONSIN				
WILMINGTON	0	0		LANSING	0	0		MEDFORD	0	0		GREEN BAY	0	0		
DIST. OF COLUMBIA				MARQUETTE U	0	0		PENDLETON	0	0		LA CROSSE	0	0		
WASHINGTON DULLES	4	4		MUSKOGEE	0	0		PORTLAND	0	0		MADISON	0	0		
WASHINGTON NATIONAL	4	4		SAULT STE MARIE	0	0		SALEM	0	0		MILWAUKEE	0	0		
FLORIDA				MINNESOTA				SEXTON SUMMIT R	0	0		WYOMING				
APALACHICOLA U	83	173		DULUTH	0	0			PACIFIC AREA			CASPER	0	0		
DAYTONA BEACH	143	342		INTERNATIONAL FALLS	0	0		GUAM TAGUAC R	396	1178		CHEYENNE	0	0		
FORT MYERS	224	570		MINNEAPOLIS	0	0		JOHNSTON	383	1135		LANDER	0	0		
JACKSONVILLE	97	218		ROCHESTER	0	0		KOROR R	504	1494		SHERIDAN	0	0		
KEY WEST	343	908		ST CLOUD	0	0		KWAJALEIN	538	1535						
LAKELAND U	205	457		MISSISSIPPI				MAJURO	497	1415						
MIAMI	335	779		JACKSON	91	124		PAGO PAGO	469	1353						
ORLANDO	183	183		MERIDIAN	106	139		PONAPE R	501	1432						
PENSACOLA	121	238		MISSOURI				TRUK MOEN ISLAND	525	1492						
TALLAHASSEE	77	187		COLUMBIA REGIONAL	12	12		WAKF	343	1040						
TAMPA	204	455		KANSAS CITY	4	4		YAP R	497	1404						
WEST PALM BEACH	274	653		ST JOSEPH	3	3		PENNSYLVANIA								
GEORGIA				ST LOUIS	24	24		ALLENTOWN	0	0						
ATHENS	25	25		SPRINGFIELD	23	23		ERIE	0	0						
ATLANTA	24	25		MONTANA				HARRISBURG	0	0						
AUGUSTA	16	21		BILLINGS	0	0		PHILADELPHIA	0	0						
COLUMBUS	54	78		GLASGOW	0	0		PITTSBURGH	0	0						
MACON	59	82		GREAT FALLS	0	0		SCRANTON	0	0						
ROME	10	10		HAYRE	0	0		WILLIAMSPORT	0	0						
SAVANNAH	96	157		HELINA	0	0			RHODE ISLAND							
				KALISPELL	0	0			BLOCK ISLAND	0	0					
				MILES CITY	0	0			PROVIDENCE	0	0					
				MISSOULA	0	0										

MARCH 1974

[illegible]

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

MARCH 1974

Herbert J. Thompson, Office of Hydrology

Major flooding occurred in the lower Neosho and Verdigris River Basins in Kansas and Oklahoma and in the Upper Sacramento River Basin in California. Significant flooding occurred in Michigan, Missouri, Kansas, Indiana, and Mississippi. Minor flooding was reported in North Dakota, southeastern Minnesota, northeastern Iowa, Nebraska, and along

portions of the Mississippi and lower Ohio Rivers. Flooding that had persisted in the Lower Mississippi Basin since December ended during March.

Hydrologic events of unusual significance or involving loss of life or property damage are discussed in more detail below.

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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HUDSON BAY DRAINAGE

Souris River Basin	A warm spell the middle of the month caused almost complete depletion of the snow cover in the Des Lacs Basin, a tributary of the Souris. This runoff combined with increased releases from Lake Darling and ice on control structures near Upham, N. Dak. caused minor flooding around Bantry, N. Dak. which was a preliminary to more significant flooding the following month.	0	0
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ST. LAWRENCE DRAINAGE

Grand and Saginaw River Basins	Rain in excess of 1 inch over the Grand Basin, and nearly 2 inches over the Saginaw Basin occurred on the 4th and 5th. Somewhat lesser amounts also fell from the 7th to the 10th. Minor flooding occurred in both basins with basements of homes flooded along the Saginaw River.	0	N.A.
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Southern Michigan Streams	Rainfall of 2 to 3.5 inches fell over the area from the 5th to the 10th. Some flooding occurred in all river basins. Ten homes were flooded along the St. Joseph River north of Three Rivers, Mich. Several hundred homes were damaged by high water levels in Cass, Sylvan, and Otter Lakes. Lowering of water levels in these lakes caused flooding in low-lying areas of Pontiac, Mich. with 35 homes damaged. Gates were open in Pontiac's Dawson's Mill Pond Dam to alleviate flooding upstream in Waterford and West Bloomfield townships and the cities of Keego Harbor and Sylvan Lake in the Clinton River Basin.	0	N.A.
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EAST GULF OF MEXICO DRAINAGE

Tombigbee River Basin	Heavy showers on the 11th caused flooding at several places. A small child was drowned when he was swept into a flooded drainage ditch in Columbus, Miss.	1	N.A.
Pearl River	Flooding which had persisted since December ended along the Pearl River early in March. Monthly rainfall totals	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

MARCH 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
EAST GULF OF MEXICO DRAINAGE-Cont'd			
	ranged up to the nearly 8 inches reported over the lower Pearl, much of which occurred the last few days of the month causing a return to flood conditions extending into April.		
UPPER MISSISSIPPI BASIN			
Upper Mississippi Basin in Minnesota, Wisconsin and Northern Iowa	Above normal temperatures during the first week in March melted most of the snow cover over southeastern Minnesota, Northeastern Iowa, and southern Wisconsin. Runoff caused minor flooding on the Root and Zumbro Rivers in Minnesota and the Trempeleau and Kickapoo Rivers in Wisconsin. Little damage resulted. The navigation season on the Mississippi River opened on the 13th at Guttenberg, Iowa, on the 14th at LaCrosse, Wis. and on the 15th at St. Paul, Minn.	0	0
Rock River Basin	Rainfall amounts averaging more than one inch combined with rapid snowmelt to cause significant flooding in the headwaters of the Rock River. The most seriously affected stream was the Pecatonica River with crest stages ranging up to more than 5 feet over flood stage.		
Upper Mississippi Main Stem	Warm temperatures and moderate rainfall early in the month removed most of the snow cover over the southern two-thirds of the basin culminating in a rise on the main Mississippi which crested 1 to 2 feet above flood stage at most points from Hannibal, Mo., downstream.	0	N.A.
MISSOURI BASIN			
Platte River Basin	Releases from reservoirs in Wyoming began late in February and maintained the North Platte River slightly above flood stage through March and into April. Flooding also occurred on the Platte River down to Brady, Nebr.	0	0
Blackwater River Basin	Heavy rainfall on the 10th-11th caused sharp rises on the Blackwater and Lamine Rivers. The Lamine, a tributary of the Blackwater, crested 9 feet above flood stage at Clifton City, Mo. The Blackwater crested 6 feet over flood stage at Valley City, Mo.	0	N.A.
Osage River Basin	Rains of up to 4 inches occurred over the headwaters of the Osage River on the Osage River on the 9th-10th with moderate flooding reported along the	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

MARCH 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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MISSOURI BASIN-Cont'd

Marmaton River at Fort Scott, Kans.
Overflows of about 6 feet were recorded.

OHIO BASIN

Wabash Basin	The Wabash River At Montezuma and Terre Haute, Ind. and the Little Wabash at Wilcox were above flood stage as the month began. Rainfall, while not greatly above normal, occurred frequently maintaining high stages throughout the month with one or two periods of minor to moderate flooding at most points along the lower White, middle and lower Wabash, and Little Wabash Rivers. Flooding along the middle Wabash extended into April.	0	N.A.
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Ohio River	The lower Ohio was above flood stage at Cairo, Ill., until the 2d. From the 9th to the 21st, light to moderate rains fell almost daily causing flooding at Newburgh, Ind. and below Evansville. Flooding at Cairo was augmented by flooding in the Mississippi River and persisted into April.	0	N.A.
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Cache, Black & White Rivers	Rainfall in March was below normal except near normal along the Arkansas-Missouri border. Most fell in two periods, on the 10th-11th and the 19th-20th, although there were showers throughout the month. Flooding occurred on the White, Black, and Cache rivers. Flooding on the Black river was the result of rain averaging two inches over the Black basin in northern Arkansas and southern Missouri on the 10th-11th. The Black crested at 19.3 feet at Black Rock on the 18th, 5.3 feet above flood stage and at 19.08 feet at Pocahontas on the 24th, 2.08 feet above flood average. The rain on the 10th-11th also contributed to the continued high stages on the White and Cache rivers, although releases from Bull Shoals and Norfork reservoirs were contributing factors on the White. The White River at Clarendon and St. Charles has been above flood stage continuously since early December and the Cache has been above flood state since late November.	0	N.A.
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Except for continued delay of farm operations, no additional damage was done by the March flooding.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

MARCH 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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ARKANSAS BASIN

Neosho and Verdigris Basins	In the Neosho and Verdigris Basins in Kansas March was an extremely wet month, with over 80 percent of the precipitation occurring from the 9th through the 11th in the form of heavy showers and thunderstorms. The only county reporting below normal precipitation was Rice county in the northwest part of the river district. The average rainfall across the district was about 165 percent of normal with extremes ranging from 74 percent of normal in Rice county to 320 percent of normal in Neosho and Crawford counties in the southeast.	3	9,176
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Major flooding occurred on the lower Neosho and Verdigris River basins. The Neosho River was above flood stage from the 10th through the 14th from near Iola, Kans. southward to the Oklahoma border. Crests ranged from 2 to 9 feet above flood stage. The Verdigris River was above flood stage from the 10th through the 14th from near Altoona southward to Lenapa, Okla. Crests on the Verdigris were 1 to 9 feet above flood stage. The crest stage on the Caney River at Ramona nearly equaled the stage of record which occurred in 1945.

Damage in the Neosho Basin was \$105,000, mostly to crops, and 20,000 acres were inundated. There was one death attributed to flooding. In the Verdigris Basin in Kansas there was \$543,000 damage with 46,000 acres inundated. About two-thirds of the damage was agricultural in nature to crops, buildings, and livestock. The remainder was to residential and public property, mainly railroads, bridges, and levees. At Coffeyville, Kans., 104 people were evacuated.

Damage in the Neosho Basin in Oklahoma was minor, amounting to \$50,000 to roads and streets and \$40,000 to private property.

The most serious damage occurred in the Verdigris drainage in Oklahoma. Storm rainfall totals ranged up to more than 6 inches over the Bird Creek and Caney River tributaries where the major flooding occurred. At Bartlesville on the Caney River 150 families were evacuated and 400 homes were flooded. Along Bird Creek, 350 people were evacuated at Skiatook, 30 families at Powhuska, and 125 families at Avant. For the Verdigris Basin in Oklahoma 152 dwel-

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

MARCH 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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ARKANSAS BASIN-Cont'd

lings received major damage and 536 minor damage; 62 mobile homes were destroyed and 139 suffered major damage; 5 farm buildings were destroyed and 84 received major damage; and 16 boats were destroyed or badly damaged. Damage to schools was \$18,000. Damage estimates by counties are: Osage, \$2,210,000 to roads and streets and \$1,706,000 to private property; Washington, \$265,000 to roads and streets and \$2,850,000 to private property; Tulsa, \$206,500 to roads and streets and \$955,000 to private property; and Rogers, \$27,000 to roads and streets and \$200,000 to private property. There were 2 flood-related deaths.

LOWER MISSISSIPPI BASIN

St. Francis River	Flooding, continued from the previous month, ended early in March. Rains of 2-3 inches on the 10th-11th and again on the 16th brought the river over flood stage for most of the remainder of the month. Damage was confined to pastures and winter crops with 100,000 acres inundated, of which 30,000 were cultivated.	0	50
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Tallahatchie, Yazoo and Big Black Rivers	Monthly rainfall totals ranged from 2 inches in northern Mississippi to nearly 9 inches in the southern part of the state. Flooding, which had persisted on all three streams since late December, ended in March. However, there was a recurrence of flooding on the upper Black, late in the month with a crest nearly 6 feet over flood stage at West, Miss.	0	N.A.
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Lower Mississippi Main Stem	When the stage at Red River Landing, La., dropped below flood stage on the 1st, the flooding of the previous months had ended at all points. The river receded gradually until the middle of March when runoff from the lower Ohio River Basin reversed the trend causing minor flooding at New Madrid and Caruthersville and also at Red River Landing later in the month.	0	N.A.
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GREAT BASIN

Malade River	Flooding of a highway crossing and agricultural land near Bear River City, Utah was reported due to snowmelt runoff. There are no reporting gages on the stream.	0	N.A.
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PACIFIC COAST DRAINAGE

Sacramento River Basin	Heavy rainfall the first few days and above normal rainfall for the month	0	5,000
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GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

MARCH 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
PACIFIC COAST DRAINAGE-Cont'd			
	<p>served to keep the Sacramento River at high levels the entire month. Several weirs on the lower Sacramento were spilling much of the month. Rainfall over the Upper Sacramento Basin was 200 to 300 percent of normal for the month. During the last few days of the month more than 12 inches of rain drenched portions of northern California as a series of storms passed over the area. Runoff into Shasta Lake was unusually heavy and the water level rose to within 1.25 feet of the top of the dam. No spilling occurred as releases were increased to 79,000 c.f.s. - the highest controllable release possible. From 1 to 6 feet of flooding occurred on the Upper Sacramento from Bend Bridge down to Vina Woodson Bridge. Warning stages were exceeded at several points downstream with flooding of agricultural land. An estimated \$25,000,000 in damage was prevented by Flood Control projects. About 50 residents near the Ball's Fishing Resort near Redding and 47 mobile home dwellers in Redding were evacuated. Box Canyon Dam north of Dunsmuir spilled and residents of Castella constructed a dike to prevent flooding. Local flooding from Dunsmuir Creek was reported in Dunsmuir.</p>		
Russian River Basin	<p>Rainfall for the month was more than twice normal with four distinct rainy periods. During the period of the 25th-30th, two long wave troughs aloft with occasional short waves accompanied by surface frontal systems produced heavy rains over the basin. Significant flooding occurred on the lower Russian River with crest stages 5 to 8 feet over flood stage.</p>	0	N.A.
Eel River Basin	<p>The heavy rainfall over Northern California caused significant flooding along the lower Eel River and the Van Duzen Fork of the Eel with crest stages 3 to 5 feet over flood stage. Between 300 to 400 people left their homes in the Ferndale area of Humboldt county, and about 350 dairy cows were evacuated to the Humboldt county fairgrounds where emergency milking machines were brought in to provide for them.</p>	0	N.A.

FLOOD STAGE DATA

(All dates in March unless otherwise specified)

MARCH 1974

River and station	Flood stage	Above flood stages -dates		Crest	
		From-	To-	Stage	Date
HUDSON BAY DRAINAGE	<i>Ft.</i>			<i>Ft.</i>	
uris River:					
Bentry 8 E. N. Dak.	11	21	25	11.02	24-25
ST. LAWRENCE DRAINAGE					
Joseph River:					
Three Rivers, Mich.	8.5	9	14	8.8	10-12
d Cedar River:					
Williamston, Mich.	7	5	7	8.05	5
		8	12	8.00	10
East Lansing, Mich.	7	5	7	7.3	6
		9	11	7.4	10
and River:					
Lansing, Mich.	11	9	11	11.7	10
Comstock Park, Mich.	12	5	16	14.17	8
awassee River:					
Owosso, Mich.	7	5	5	7.16	5
		9	10	7.19	9
int River:					
Flint, Mich.	11	5	5	11.7	5
		9	10	11.4	9
as River:					
Vassar, Mich.	14	5	6	14.8	6
atabawassee River:					
Midland, Mich.	24	5	7	24.20	7
ginaw River:					
Saginaw, Mich.	19	6	12	20.0	8
inton River:					
Mt. Clemens, Mich.	13	5	7	15.7	6
		9	10	13.1	10
Fraser, Mich.	13	5	7	14.4	6
		9	11	15.2	9
iddle River Rouge:					
Garden City, Mich.	7	5	7	8.4	5
		9	11	8.5	10
uron River:					
Dexter, Mich.	6	9	15	6.8	10
Ann Arbor, Mich.	15	5	14	16.7	9
iver Raisin:					
Monroe, Mich (City)	8.5	9	12	8.9	10
t. Josephs:					
Montpelier, Ohio	10	5	15	12.7	10
iffin:					
Stryker, Ohio	11	5	16	13.3	7
aumee:					
Ft. Wayne, Ind.	15	5	8	16.2	6
		10	10	16.2	10
andusky:					
Upper Sandusky, Ohio	11	11	11	11.10	11
atka:					
Garbutt, N. Y.	5	6	6	5.1	6
lack:					
Churchville, N. Y.	5	6	6	5.1	6
ATLANTIC SLOPE DRAINAGE					
Charles:					
Charles Riv. Vil., Mass.	4	25	25	4.0	25
Millstone:					
Blackwells Mills, N. J.	7	12	22	7.2	22
Roanoke:					
Williamston, N. C.	10 Feb	1	3	11.1	Feb 15
Leuse:					
Smithfield, N. C.	13	11 Apr	3	14.8	Apr 2

River and station	Flood stage	Above flood stages -dates		Crest	
		From-	To-	Stage	Date
ATLANTIC SLOPE DRAINAGE-Cont'd	<i>Ft.</i>			<i>Ft.</i>	
Cape Fear:					
Huske Lock & Dam, N. C.	42	31 Apr	2	44.4	Apr 1
Lumber:					
Lumberton, N. C.	9 Feb	4	5	11.0	Feb 24
		31 Apr	18	9.4	Apr 3
Little Pee Dee:					
Galivants Ferry, S. C.	9 Feb	9	1	9.6	Feb 25
Pee Dee:					
Pee Dee, S. C.	19 Jan	25	1	21.3	Feb 13
Edisto:					
Givhans Ferry, S. C.	10 Feb	9	1	12.6	Feb 22
Savannah:					
Millhaven-Wade 2 SE, Ga.	15 Feb	8	6	17.3	Feb 25
Clyo, Ga.	11 Jan	8	13	15.8	Feb 26
Ogeechee:					
Eden, Ga.	9 Feb	13	5	10.8	Feb 27
Altamaha:					
Charlotte, Ga.	15 Feb	15	2	18.0	Feb 27
EAST GULF OF MEXICO DRAINAGE					
Apalachicola:					
Blountstown, Fla.	15 Jan	28	2	19.7	Feb 11-13
Tombigbee:					
Amory, Miss.	20	22	23	20.66	22
Coffeeville Lock & Dam, Ala.	43 Dec	28	3	48.8	Feb 24
Pearl:					
Jackson, Miss.	18 Dec	25	5	33.56	Jan 31
		29	30	18.50	29
Monticello, Miss.	19 Dec	25	5	27.92	Jan 30
Columbia, Miss.	17 Feb	19	5	19.66	Feb 27
Bogalusa, La.	15 Dec	23	11	20.68	Feb 3
		14	19	16.50	16
		27	1	22.14	Apr 18
Pearl River, La.	12 Dec	28	12	16.8	Feb 7
				15.18	2
				15.15	4
		28 Apr	2	14.92	30
UPPER MISSISSIPPI BASIN					
Zumbro River:					
Theilman, Minn.	38	8	10	39.95	9
Trempealeau River:					
Dodge, Wis.	7	6	6	7.49	6
Root River:					
Hokah, Minn.	47	8	8	48.00	8
Kickapoo River:					
Soldiers Grove, Wis.	723	5	5	724.1	5
Gays Mills, Wis.	698	4	7	698.75	6
Steuben, Wis.	8	3	10	9.39	6
East Branch Pecatonica River:					
Blanchardville, Wis.	17	3	4	18.0	4
Pecatonica River:					
Darlington, Wis.	11	3	4	14.4	4
Martintown, Wis.	11	3	11	16.31	6
Freeport, Ill.	13	6	10	13.8	8
Shirland, Ill.	12	4	16	14.65	6
Kishwaukee River:					
Perryville, Ill.	10	3	7	12.9	4
Rock River:					
Afton, Wis.	8	7	1	9.96	12
Rockton, Ill.	10	6	15	11.2	10-12
Rockford, Ill.	13.5	8	15	14.0	12

FLOOD STAGE DATA

(All dates in March unless otherwise specified)

MARCH 1974

River and station	Flood stage	Above flood stages -dates		Crest		River and station	Flood stage	Above flood stages -dates		Crest	
		From—	To—	Stage	Date			From—	To—	Stage	Date
UPPER MISSISSIPPI BASIN-Cont'd						Ohio Basin-Cont'd					
Rock River-Continued:						White-Continued:					
Joslin, Ill.	12	5	19	13.9	7	Petersburg, Ind.	16	11	20	18.62	16
Moline, Ill.	12	7	16	12.5	7	Little Wabash:					
Iowa River:						Wilcox, Ill.	16 Feb	22	5	19.96	Feb 27
Marshalltown, Iowa	13	3	7	14.00	4			5	7	17.22	6
Illinois River:								12	18	19.92	16
La Salle, Ill.	20	5	18	21.30	7			31	Apr	14	19.64
Peoria, Ill.	18 Feb	25	2	#18.3	Feb 28	Wabash:					
		6	22	#19.1	13	Wabash, Ind.	12	5	6	12.44	5
Havana, Ill.	14 Jan	23	1	#17.6	16	Lafayette, Ind.	11	1	2	13.8	2
Beardstown, Ill.	14 Jan	22	1	19.6	18			5	6	15.38	6
Meredosia, Ill.	12 Jan	23	Apr	29	#40.7	Covington, Ind.	16	5	15	19.42	7
Meramec River:								30	Apr	11	18.62
Valley Park, Mo.	16	13	14	17.8	14	Montezuma, Ind.	14 Feb	21	16	18.98	Feb 25
Kaskaskia River:								30	Apr	18	19.43
Carlyle, Ill.	21 Jan	26	U	24.28	Feb 21	Terre Haute, Ind.	14 Feb	22	3	16.7	Feb 26
Big Muddy River:								5	16	16.4	10,13
Murphysboro, Ill.	16 Feb	22	3	#21.94	Feb 27			30	Apr	16	17.2
		7	U	U	U	Vincennes, Ind.	16	1	4	16.28	2
Mississippi River:								12	18	17.38	14,16
Hannibal, Mo.	16	13	15	#16.7	13	Mt. Carmel, Ill.	17	12	22	19.62	17
Louisiana, Mo.	15	13	15	#15.56	14	New Harmony, Ind.	15	15	21	#15.5	18
Clarksville, Dam 24 TW, Mo.	25	13	16	#25.57	14	Cumberland:					
Grafton, Ill.	18	13	20	19.42	16	Baxter Harlan W.W.O, Ky.	16	21	22	16.8	21
Alton, Dam 26 TW, Ill.	21	14	18	#22.21	15	Barbourville, Ky.	27	21	22	30.3	22
Chester, Ill.	27	14	20	#28.69	15	Williamsburg, Ky.	21	22	23	21.8	23
Cape Girardeau, Mo.	32	14	22	#33.90	17	Elk:					
Thebes, Ill.	33	15	20	#33.72	17	Fayetteville, Tenn.	661	21	22	661.9	21
Missouri Basin						Tennessee:					
North Platte River:						Whitesburg, Ala.	560	22	26	561.43	23
Mitchell, Nebr.	6	1	1	6.97	Apr 1	Gilbertville, Ky.	320	16	30	324.63	27
Bridgeport, Nebr.	8	10	24	8.22	Apr 8	Ohio:					
				8.25	Apr 8	Newburgh, Dam 47, Ind.	38	15	20	#40.6	18
Lewellen, Nebr. (N Channel)	6.5	12	27	6.60	Apr 25	Cypress, Dam 48, Ind.	38	17	19	38.4	18
				6.7	Apr 11	Mt. Vernon, Ind.	35	16	21	#36.5	19
North Platte, Nebr.	5	15	18	5.35	Apr 13	Dam 49, Ky.	37	17	21	#38.2	19
				5.30	Apr 13	Shawneetown, Ill.	33	14	28	#37.8	20
Lodgepole Creek:						Dam 50, Ky.	34	14	29	#39.9	20
Brady, Nebr. (Channel No. 1)	5	U	28	6.25	Apr 12	Brookport, Dam 52, Ill.	37	19	30	#38.1	27
Lamine River:						Cairo, Ill.	40 Feb	23	2	#42.14	Feb 26
Clifton City, Mo.	19	11	12	27.97	11			12	1	#45.44	21
Blackwater River:						White Basin					
Valley City, Mo.	22	10	12	28.08	11	Cache:					
Blue Lick, Mo.	25	13	15	27.33	14	Patterson, Ark.	7 Nov	26	1	A 7.9	19
Marais Des Cygnes River:						Black:					
State Line, Kan.	25	12	13	25.6	12	Pocahontas, Ark.	17 Feb	24	24	19.08	17
Harmaton River:						Black Rock, Ark.	14 Feb	21	9	21.5	Feb 23
Ft. Scott, Kan.	38	10	12	#43.56	11			11	1	19.3	18
South Grand River:						White:					
Hermann, Mo.	21	11	18	24.2	13	Georgetown, Ark.	21 Feb	22	8	21.7	2
St. Charles, Mo.	25	12	17	#26.8	14	Clarendon, Ark.	26 Dec	1	1	A28.0	Feb 4
Ohio Basin						St. Charles, Ark.	25 Dec	5	1	27.5	Feb 9
Scioto:						Arkansas Basin					
Circleville, Ohio	14	31	31	14.8	31	Chikaskia:					
Embarrass:						Blackwell, Kan.	26	10	12	29.2	11
Lawrenceville, Ill.	11 Feb	22	19	15.25	16	Salt Fork:					
White:						Tonkawa, Okla.	17	10	12	21.1	11
Elliston, Ind.	18	13	15	19.60	14	Black Bear Creek:					
Edwardsport, Ind.	15	11	17	17.3	14	Pawnee, Okla.	17	10	13	24.4	12
						Cimarron:					
						Dover, Okla.	17	10	U	17.3	10

FLOOD STAGE DATA

(All dates in March unless otherwise specified)

MARCH 1974

River and station	Flood stage	Above flood stages -dates ¹		Crest ¹	
		From—	To—	Stage	Date ¹
<u>Arkansas Basin-Cont'd</u>	<u>Ft.</u>			<u>Ft.</u>	
<u>Barren-Continued:</u>					
Guthrie, Okla.	10	10	12	12.8	11
Perkins, Okla.	12	11	12	13.4	11
<u>Little Caney:</u>					
Copan, Okla.	21	10	18	24.7	11
<u>Caney:</u>					
Bartlesville, Okla.	13	10	14	20.9	11
Ramona, Okla.	27	10	18	30.1	11
<u>Card Creek:</u>					
Avant, Okla.	16	10	13	32.2	11
Spertiv, Okla.	21	10	14	30.7	12
Quasso, Okla.	25	11	14	36.4	12
<u>Cardigan:</u>					
Altoona, Kan.	23	10	12	24.40	11
Independence, Kan.	30	10	13	39.4	11
Coffeyville, Kan.	18	10	13	23.2	11
Lenapah, Okla.	36	10	14	36.4	11
<u>Spring:</u>					
Quapaw, Okla.	20	10	14	30.0	12
<u>Seesho:</u>					
Iola, Kan.	20	11	11	21.9	11
Chanute, Kan.	23	10	12	27.58	11
Parsons, Kan.	22	U	U	U	U
Oswego, Kan.	17	10	14	25.90	11
Commerce, Okla.	15	10	16	22.4	12
<u>Seoteau:</u>					
Panama, Okla.	24	12	12	24.6	12
<u>Arkansas:</u>					
Ponca City, Okla.	914	11	11	914.1	11
Salston, Okla.	16	10	12	17.6	11
<u>Red Basin</u>					
<u>Lower</u>					
Glover, Okla.	19	11	12	23.8	11
<u>Quachita:</u>					
Monroe, La.	46 Jan	13	11	45.2	Jan 30-31
Columbia Lock & Dam, La.	65 Jan	25	2	67.0	Feb 2-3
<u>Black:</u>					
Jonesville Lock & Dam, La.	52 Jan	24	9	53.6	Feb 6-8
<u>Lower Mississippi Basin</u>					
<u>St. Francis:</u>					
Fisk, Mo.	20 Feb	24	2	22.17	Feb 26
		12	26	22.75	15
St. Francis, Ark.	18 Feb	23	4	19.09	1
		11	29	19.76	17
<u>Callahatchie:</u>					
Swan Lake, Miss.	26 Dec	27	15	30.25	Jan 15
<u>Yazoo:</u>					
Yazoo City, Miss.	29 Feb	25	19	34.16	Feb 16

River and station	Flood stage	Above flood stages -dates ¹		Crest ¹	
		From—	To—	Stage	Date ¹
<u>Lower Mississippi Basin-Cont'd</u>	<u>Ft.</u>			<u>Ft.</u>	
<u>Big Black:</u>					
West, Miss.	12 Dec	25	2	20.70	Jan 29
		20	28	17.90	24
Bovina, Miss.	28 Feb	15	U	34.10	Feb 21
<u>Mississippi:</u>					
New Madrid, Mo.	34	20	24	34.4	22
Caruthersville, Mo.	32	19	28	33.1	22-23
Red River Landing, La.	45 Jan	18	1	50.2	Feb 17
		31 Apr	5	45.15	Apr 3
<u>Atchafalaya Basin</u>					
<u>Atchafalaya:</u>					
Morgan City, La.	7 Dec	13	1/ A	9.3	Feb 19
<u>WEST GULF OF MEXICO DRAINAGE</u>					
<u>Calcasieu:</u>					
Hineston, La.	12	28 Apr	2	13.43	30
<u>Angelina:</u>					
Lufkin, Tex. (Near)	8	U B	1/ A	10.70	3
<u>Neches:</u>					
Diboll, Tex. (Near)	10 Oct	13	1/ A	11.63	8
<u>Trinity:</u>					
Moss Bluff, Tex.	4	1	4	4.15	3
<u>Nueces:</u>					
Tilden, Tex.	14	19	22	16.1	21
Mathis Bridge, Tex.	15	20	21	18.0	21
<u>PACIFIC SLOPE DRAINAGE</u>					
<u>Sacramento:</u>					
Ben Bridge, Calif.	38	30	1/	41.4	30
Red Bluff, Calif.	23	30	1/	24.1	30
Tehama Bridge, Calif.	213	29	1/	219.0	30
Vina Woodson Bridge, Calif.	183	29	1/	188.6	30
<u>Russian:</u>					
Healdsburg, Calif.	19	30	30	20.65	30
Summer Home, Calif.	32	29	31	40.30	30
Guernville Bridge, Calif.	32	30	31	37.6	31
<u>Van Duzen:</u>					
Bridgeville, Calif.	17	29	30	20.22	30
<u>Eel:</u>					
Miranda, Calif.	33	30	30	33.39	30
Fernbridge, Calif.	20	29	30	24.81	30
<u>South Fork Coquille:</u>					
Myrtle Point, Ore.	35 Feb	28	1	36.80	Feb 28
<u>Weiser:</u>					
Weiser 10 ENE, Idaho	13	31	U	13.47	31
<u>Johnson Creek:</u>					
Sycamore, Ore.	8	5	5	18.15	5
A See Previous Monthly Report for Additional Crest Information.					
B Above Flood Stage Entire Month.					

Average monthly values

MARCH 1974

ALBANY, N. Y. 1005 MB												ALBUQUERQUE, N. MEX. 835 MB												AMARILLO, TEXAS 888 MB												ANCHORAGE, ALASKA 1003 MB												ANNETTE, ALASKA 1004 MB											
Standard pressure surface (mb.)		No. of observations		Dynamic height		Temperature		Dew Point		Resultant Wind		No. of observations		Dynamic height		Temperature		Dew Point		Resultant Wind		No. of observations		Dynamic height		Temperature		Dew Point		Resultant Wind		No. of observations		Dynamic height		Temperature		Dew Point		Resultant Wind																			
SURFACE	31	86	-1.7	-6.6	30	2.1	31	1.619	5.2	-6.3	30	.6	31	1.095	6.0	2.3	23	2.6	31	45	-5.4	-11.1	36	.7	31	37	.9	-2.3	06	1.2	31	45	-5.4	-11.1	36	.7	31	37	.9	-2.3	06	1.2																	
1000	23	159	-3.1	-9.9	29	1.8																																																					
950	31	529	-2.9	-9.9	28	3.8																																																					
900	31	955	-4.4	-10.7	28	6.3																																																					
850	31	1,404	-6.3	-12.5	29	9.3																																																					
800	31	1,879	-6.4	-14.7	28	12.6																																																					
750	31	2,383	-7.3	-16.4	28	15.4																																																					
700	31	2,918	-9.5	-19.6	28	18.2																																																					
650	31	3,468	-12.1	-22.5	28	20.3																																																					
600	31	4,097	-15.4	-25.0	28	22.5																																																					
550	31	4,749	-19.2	-28.9	27	25.2																																																					
500	31	5,452	-24.1	-34.2	27	28.1																																																					
450	31	6,212	-29.4	-39.4	27	30.7																																																					
400	31	7,043	-35.2	-43.1	27	32.7																																																					
350	31	7,964	-41.7	-45.3	27	32.2																																																					
300	31	8,991	-48.5		27	36.6																																																					
250	31	10,174	-54.3		28	37.2																																																					
200	31	11,597	-55.7		28	32.6																																																					
175	31	12,450	-54.5		28	30.8																																																					
150	31	13,438	-54.4		28	28.3																																																					
125	31	14,603	-55.6		28	25.4																																																					
100	31	16,020	-57.1		27	20.4																																																					
80	31	17,434	-56.5		28	15.6																																																					
60	31	18,281	-56.6		28	12.2																																																					
40	31	19,262	-55.7		29	8.1																																																					
30	31	20,456	-54.9		31	6.1																															</																						

ATHENS, GEORGIA 988 MB										BARROW, ALASKA 1024 MB										BARTER IS., ALASKA 1022 MB										BETHEL, ALASKA 1005 MB										BISMARCK, N. DAK. 952 MB									
SURFACE	31	246	9.8	6.1	26	.6	31	8	-30.5	-31.4	04	1.0	31	15	-30.4	-32.8	21	1.3	29	39	-10.2	-14.5	03	2.8	31	503	-5.5	-7.7	32	1.1																			
1000							30	185	-23.7	-25.3	07	3.1	30	177	-25.4	-27.7	21	1.0	18	128	-10.5	-15.0	05	3.7																									
950	31	570	11.4	5.3	26	5.9	31	557	-19.7	-23.3	07	3.1	30	545	-20.7	-24.3	19	1.0	29	472	-6.3	-12.3	08	4.8	21	562	-8.0	-11.0	31	1.5																			
900	31	1,022	10.2	3.1	27	8.7	31	959	-18.6	-23.8	07	3.0	31	948	-18.5	-24.0	18	1.2	29	895	-6.6	-13.9	10	3.2	31	943	-5.8	-9.4	29	4.0																			
850	31	1,496	7.9			10.2	31	1,386	-18.1	-25.3	06	3.0	31	1,374	-18.5	-24.7	14			729	1,340	-8.0	-15.2	10	1.7	31	1,392	-5.3	-10.5	29	5.9																		
800	31	1,995	5.9	-8.5	27	10.3	31	1,838	-19.3	-27.5	05	2.1	31	1,826	-19.5	-25.8	10	1.0	29	1,810	-9.7	-16.9	11	1.2	31	1,867	-6.4	-13.6	29	8.1																			
750	31	2,521	3.6	-8.9	27	12.0	31	2,317	-20.9	-28.5	04	2.3	31	2,304	-21.4	-27.5	07	1.1	29	2,307	-11.9	-19.2	34	7.3	31	2,370	-6.6	-15.6	29	10.7																			
700	31	3,078	.8	-13.5	27	14.3	31	2,824	-23.2	-30.7	02	2.2	31	2,810	-23.7	-30.7	04	1.1	29	2,833	-14.0	-22.2	29	1.1	31	2,903	-11.2	-18.4	29	13.4																			
650	31	3,670	-2.1	-15.4	27	16.3	31	3,278	-25.1	-33.4	01	2.1	31	3,249	-25.5	-33.4	35	1.5	29	3,290	-17.2	-24.9	27	1.5	31	3,368	-14.1	-22.2	29	15.1																			
600	31	4,302	-6.0	-18.8	27	18.4	31	3,939	-29.5	-37.1	35	2.9	31	3,923	-29.7	-36.9	33	2.6	29	3,985	-21.0	-30.0	26	1.9	31	4,071	-18.1	-25.4	29	15.8																			
550	31	4,977	-10.3	-23.8	27	20.1	31	4,555	-33.3	-40.0	33	3.5	31	4,539	-33.3	-39.9	32	3.3	29	4,624	-24.7	-33.0	26	2.9	31	4,716	-22.2	-29.3	29	17.5																			
500	31	5,705	-15.2	-28.1	27	22.2	31	5,220	-37.2	-42.3	33	4.5	31	5,203	-37.2	-42.8	32	4.8	29	5,311	-29.2	-36.5	26	3.3	31	5,410	-26.7	-32.9	28	19.7																			
450	31	6,492	-20.6	-32.7	27	25.2	31	5,942	-41.3	-46.5	32	5.9	31	5,925	-41.5	-46.5	31	6.9	29	6,057	-34.0	-39.3	25	4.4	31	6,163	-32.0	-36.6	28	21.9																			
400	31	7,353	-27.0	-39.6	27	28.3	31	6,734	-46.1		31	7.4	31	6,716	-45.9		31	8.4	29	6,873	-39.3	-41.9	25	4.7	30	6,995	-37.5	-42.0	28	22.9																			
350	31	8,304	-34.5	-44.8	27	30.2	31	7,615	-50.3		30	7.8	30	7,600	-49.8		31	10.1	29	7,778	-45.0		25	6.2	30	7,908	-43.3	-42.3	28	25.0																			
300	31	9,360	-43.0		27	33.5	31	8,614	-51.9		29	9.7	30	8,602	-51.5		30	11.9	29	8,796	-49.1		25	6.9	29	8,935	-49.2		27	27.7																			
250	30	10,559	-52.5		27	35.2	31	9,802	-49.0		29	10.4	30	9,790	-49.0		30	12.3	29	9,985	-51.1		25	6.0	29	10,118	-53.7		27	28.4																			
200	30	11,976	-59.7		27	39.1	31	11,276	-46.4		29	10.4	28	11,261	-46.2		30	12.2	29	11,450	-47.3		25	4.8	29	11,593	-52.3		27	27.7																			
175	30	12,808	-60.1		27	39.1	31	12,164	-46.2		29	10.6	28	12,141	-46.0		30	12.0	29	12,335	-46.6		26	4.0	28	12,415	-52.7		27	24.5																			
150	30	13,769	-60.8		27	36.5	31	13,189	-46.1		28	10.7	28	13,167	-45.9		30	12.5	29	13,358	-46.6		25	3.9	28	13,412	-52.6		28	22.5																			
125	29	14,900	-63.5		27	31.0	31	14,403	-45.6		28	11.2	28	14,382	-45.5		30	13.7	29	14,569	-46.3		25	2.3	27	14,594	-53.5		28	19.8																			
100	27	16,253	-67.1		27	24.6	30	15,908	-44.7		27	11.7	28	15,872	-44.6		30	13.9	29	16,052	-46.2		22	1.3	26	16,027	-54.5		28	16.0																			
80	27	17,596	-67.4		28	18.0	29	17,394	-43.7		28	12.1	28	17,370	-43.7		30	13.2	29	17,537	-45.8		16	1.0	26	17,456	-54.5		30	9.9																			
70	27	18,403	-66.3		28	13.0	29	18,294	-42.6		28	11.9	28	18,271	-42.4		30	12.7	29	18,428	-45.5		15	1.6	26	18,310	-54.5		31	8.0																			
60	27	19,341	-64.4		28	9.1	29	19,336	-42.2		28	11.8	28	19,314	-41.9		30	12.8	28	19,453	-45.4		13	2.6	25	19,303	-53.0		33	5.5																			
50	27	20,462	-61.9		29	5.5	29	20,570	-41.9		28	11.1	28	20,531	-41.4		30	12.1	25	20,678	-45.6		11	4.1	24	20,479	-52.1		01	5.2																			
40	27	21,853	-59.3		35	3.0	27	22,067	-42.3		27	13.0	28	22,063	-42.2		30	9.8	25	22,164	-45.9		12	5.0	24	21,923	-52.3		06	8.1																			
30	27	23,670	-56.8		30	3.2	20	23,973	-46.1		28	10.0	26	24,003	-42.1		31	8.8	23	24,093	-45.2		11	7.7	21	23,781	-50.5		06	11.2																			
25	24	24,840	-53.9		05	4.1	15	25,230	-43.6		28	8.0	25	25,230	-42.9		30	6.0	22	25,308	-45.5		11	7.4	19	24,975	-50.4		07	13.5																			
20	22	26,275	-52.2		07	6.7	10	26,776	-43.6				21	26,739	-42.4		30	4.8	19	26,801	-45.5		10	9.3	14	26,443	-49.7		07	14.9																			
15	18	28,143	-50.1		07	6.9							18	28,683	-42.7		31	5.3	10	28,772	-44.7			10	28,354	-48.2		07	19.8																				
10	6	30,802	-46.4										15	31,464	-41.0		30	7.0						8	31,064	-45.5																							
7													5	34,049	-41.3																																		

BOISE, IDAHO 913 MB										BOOTHVILLE, LA. 1017 MB										* BROWNSVILLE, TEXAS 1012 MB										BUFFALO, N. Y. 988 MB										CAPE HATTERAS, N. C. 1016 MB									
SURFACE	31	871	3.1	-1.6	15	1.7	31	1	10.7	15.1	11	.8	31	7	19.7	17.6	15	2.2	31	218	-1.1	-5.1	28	1.4	31	4	11.8	7.9	30	2.5																			
1000							31	144	18.2	15.4	15	1.6 <td>31</td> <td>110</td> <td>19.9</td> <td>18.7</td> <td>16</td> <td>4.2</td> <td>31</td> <td>30</td> <td>146</td> <td>12.9</td> <td>6.8</td> <td>30</td> <td>30</td> <td>146</td> <td>12.9</td> <td>6.8</td> <td>30</td> <td>3.8</td>	31	110	19.9	18.7	16	4.2	31	30	146	12.9	6.8	30	30	146	12.9	6.8	30	3.8																			
950							31	583	16.2	11.6	22	3.0 <td>31</td> <td>552</td> <td>18.7</td> <td>14.9</td> <td>16</td> <td>8.5</td> <td>31</td> <td>534</td> <td>-1.9</td> <td>-6.6</td> <td>26</td> <td>4.7</td> <td>31</td> <td>571</td> <td>11.1</td> <td>3.4</td> <td>29</td> <td>6.6</td>	31	552	18.7	14.9	16	8.5	31	534	-1.9	-6.6	26	4.7	31	571	11.1	3.4	29	6.6																			
900	30	992	4.0				31	1043	14.8	7.9	23	5.3 <td>31</td> <td>1016</td> <td>17.4</td> <td>7.9</td> <td>17</td> <td>9.5<td>31</td><td>962</td><td>-3.8</td><td>-8.9</td><td>27</td><td>7.4</td><td>31</td><td>1021</td><td>9.1</td><td>.6</td><td>28</td><td>7.6</td></td>	31	1016	17.4	7.9	17	9.5 <td>31</td> <td>962</td> <td>-3.8</td> <td>-8.9</td> <td>27</td> <td>7.4</td> <td>31</td> <td>1021</td> <td>9.1</td> <td>.6</td> <td>28</td> <td>7.6</td>	31	962	-3.8	-8.9	27	7.4	31	1021	9.1	.6	28	7.6																			
850	31	1451	1.6	-5.4	26	2.2	31	1523	12.9	1.7	24	6.2	31	1504	16.4	2.2	18	8.1	31	1413	-5.1	-11.2	28	9.3	31	1493	9.0	-1.6	28	9.2																			
800	31	1937	-1.5	-6.6	26	5.1	31	2033	11.1	-3.1	25	7.4	31	2018	-4.8	-1.8	19	5.8	31	1889	-4.7	-13.8	28	12.2	31	1990	4.7	-5.7	27	11.4																			
750	31	2449	-9.5	-9.8	28	7.8	31	2456	-2.2	-6.6	25	7.8	31	2456	11.4	-6.8	20	4.8	31	2393	-7.7	-15.4	28	14.6	31	2513	1.9	-9.6	27	13.8																			
700	31	2989	-8.0	-13.3	28	10.1	31	3135	4.6	-10.5	25	8.7	31	3132	8.0	-10.3	23	4.5	31	2927	-10.2	-16.8	28	16.9	31	3067	-1.0	-12.3	27	16.0																			
650	31	3562	-10.9	-17.0	27	12.0	31	3736	1.3	-14.6	26	10.5	31	3739	3.8	-13.4	25	5.8	31	3496	-12.9	-21.4	28	19.3	31	3655	-4.6	-16.8	27	17.8																			
600	31	4173	-14.5	-21.3	27	13.9	31	4375	-2.8	-20.3	26	11.2	31	4384	-1.0	-17.8	26	7.3	31	4102	-16.1	-24.9	28	21.7	31	4283	-7.3	-20.9	27	21.1																			
550	31	4827	-18.5	-25.5	27	15.4	31	5055	-7.1	-24.0	27	12.3	31	5071	-6.0	-23.0	26	9.5	31	4753	-20.6	-31.0	28	23.6	31	4956	-11.5	-24.2	27	23.6																			
500	31	5432	-23.1	-30.2	27	16.3	31	5794	-12.5	-28.1	26	14.1	31	5810	-10.4	-26.6	26	10.4	31	5453	-24.8	-35.2	28	26.1	31	5646	-16.2	-27.7	27	26.6																			
450	31	6296	-26.2	-33.3	27	18.6	31	6590	-18.1	-33.2	27	17.1	31	6609	-17.3	-31.0	26	12.1	31	6212	-29.6	-39.9	28	28.3	31	6464	-21.7	-34.5	28	27.1																			
400	31	7130	-36.4	-41.8	26	21.0	31	7459	-24.7	-38.3	26	19.3	31	7448	-23.0	-36.6	25	15.6	31	7043	-35.1	-43.9	28	31.1	31	7320	-28.2	-40.8	28	29.1																			
350	31	8053	-41.4	-42.6	27	21.6	31	8420	-32.0	-43.4	26	21.6	31	8444	-31.0	-43.3	25	18.5	31	7955	-41.1	-43.4	27	33.6	31	8267	-35.4	-46.7	28	31.8																			
300	31	9079	-49.2			27	23.8	31	9487	-40.2	-50.7	27	25.9	30	9510	-39.8	-50.6	25	22.4	31	8995	-48.1		27	36.9	31	9319	-41.5		28	35.6																		
250	31	9525	-56.5			27	25.2	31	10706	-49.8		27	30.4	30	10736	-49.8		25	26.3	31	10178	-54.6		27	39.0	31	10523	-53.5		28	39.2																		
200	31	11054	-63.1			27	24.0	31	12147	-57.9		26	28.2	29	12157	-57.9		25	25.1	31	11597	-55.1		27	39.0	31	12023	-54.5		28	39.2																		
175	31	12516	-54.8			27	21.9	31	13777	-55.8		26	23.8	29	12594	-61.6		25	27.5	31	12454	-54.5		29	28.9	30	12793	-59.0		28	38.3																		
150	31	13504	-56.4			27	18.2	31	13933	-62.7		26	29.9	29	13945	-63.5		25	25.7	31	13443	-54.4		29	27.6	28	13752	-59.0		28	37.5																		
125	31	14668	-55.8			27	15.0	31	15047	-66.7		26	27.4	29	15054	-67.8		25	21.3	31	14607	-55.9		29	23.4	28	14886	-61.9		28	34.0																		
100	31	16086	-56.2			28	10.3	30	16382	-70.7		27	21.1	29	16379	-72.7		25	17.3	31	16022	-57.1		29	20.2	28	16257	-64.5		28	28.3																		
75	31	17501	-56.5			29	6.3	30	17699	-71.9		27	13.0	29	17682	-71.9		25	11.0	31	17434	-56.9		29	15.4	28	17618	-64.8		27	15.4																		
50	31	18348	-55.7			30	2.9	30	18464	-70.5		28	4.6	29	18464	-70.5		26	2.3	31	18261	-56.1		29	7.7	28	18429	-62.9		28	15.4																		
20	26	19326	-55.7			30	2.2	28	19409	-67.5		28	4.4	29	19375	-69.1		26	2.7	31	19263	-55.9		29	8.9	26	19376	-62.3		28	9.2																		
50	26	20491	-54.5			05	4.5	28	20518	-63.5		30	2.0	29	20480	-64.8		27	.6	31	20426	-54.5		31	5.8	26	20509	-60.0		29	5.9																		
50	25	21492	-53.6			06	7.5	26	21903	-59.5		02	1.6	27	21855	-60.4		05	1.1	31	21858	-53.9		34	4.0	26	21912	-57.5		31	3.3																		
20	22	23077	-52.3			07	12.1	25	23712	-56.1		05	3.5	27	23664	-56.7		04	2.9	28	23710	-52.6		03	5.8	23	23740	-53.8		04	2.2																		
25	22	24957	-51.8			07	14.6	25	24876	-54.3		06	4.4	26	24810	-55.0		06	2.6	27	24887	-51.6		05	7.0	24	24924	-53.8		04	1.1																		
20	27	26144	-49.3			07	20.1	26	26133	-51.0		07	3.6	27	26122	-52.2		08	1.7	23	26122	-50.5		07	10.1	23	26122	-50.5		07	5.1																		
15	14	280317	-44.3			07	20.1	21	281199	-49.3		07	3.4	22	280130	-49.4		08	2.2	22	282126	-49.1		05	10.0	17	28243	-49.7		07	5.8																		
10	8	310144	-47.7			8		30	30900	-44.4		14		17	30818	-43.7		14		17	30885	-47.7		8		30	30931	-44.3																					

RAWINSONDE DATA

Average monthly values

MO. H. 1976

CARIBOU, MAINE 987 MB										CHARLESTON, S. C. 1016 MB										CHATHAM, MASS. 1012 MB										CHIHUAHUA, MEXICO 896 MB										COLD BAY, ALASKA 1002 MB																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Standard pressure surface (mb.)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed	M.P.A.	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed	M.P.A.	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed	M.P.A.	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed	M.P.A.	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed	M.P.A.	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed	M.P.A.	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed	M.P.A.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
SURFACE	31	191	-9.0	-14.3	29	1.9	31	13	12.0	8.1	26	4.9	31	16	1.6	-4.3	26	1.5	31	1428	10.5	-4.8	29	1.2	31	30	-2.3	-6.4	13	1.8	1000	31	17	131	-6.0	-9.3	33	1.2	950	31	889	-10.7	-15.0	28	6.4	31	876	-5.0	-9.0	07	1.2	850	31	1337	-12.1	-16.8	28	8.7	31	1301	-13.3	-18.3	28	10.3	31	1291	-14.9	-21.0	28	12.4	31	1281	-17.0	-23.5	28	14.9	31	1271	-19.5	-26.1	27	17.1	31	1261	-22.0	-28.7	27	19.6	31	1251	-24.5	-31.2	27	22.1	31	1241	-27.0	-33.7	27	24.6	31	1231	-29.5	-36.2	27	27.1	31	1221	-32.0	-38.7	27	29.6	31	1211	-34.5	-41.2	27	32.1	31	1201	-37.0	-43.7	27	34.6	31	1191	-39.5	-46.2	27	37.1	31	1181	-42.0	-48.7	27	39.6	31	1171	-44.5	-51.2	27	42.1	31	1161	-47.0	-53.7	27	44.6	31	1151	-49.5	-56.2	27	47.1	31	1141	-52.0	-58.7	27	49.6	31	1131	-54.5	-61.2	27	52.1	31	1121	-57.0	-63.7	27	54.6	31	1111	-59.5	-66.2	27	57.1	31	1101	-62.0	-68.7	27	59.6	31	1091	-64.5	-71.2	27	62.1	31	1081	-67.0	-73.7	27	64.6	31	1071	-69.5	-76.2	27	67.1	31	1061	-72.0	-78.7	27	69.6	31	1051	-74.5	-81.2	27	72.1	31	1041	-77.0	-83.7	27	74.6	31	1031	-79.5	-86.2	27	77.1	31	1021	-82.0	-88.7	27	79.6	31	1011	-84.5	-91.2	27	82.1	31	1001	-87.0	-93.7	27	84.6	31	991	-89.5	-96.2	27	87.1	31	981	-92.0	-98.7	27	89.6	31	971	-94.5	-101.2	27	92.1	31	961	-97.0	-103.7	27	94.6	31	951	-99.5	-106.2	27	97.1	31	941	-102.0	-108.7	27	99.6	31	931	-104.5	-111.2	27	102.1	31	921	-107.0	-113.7	27	104.6	31	911	-109.5	-116.2	27	107.1	31	901	-112.0	-118.7	27	109.6	31	891	-114.5	-121.2	27	112.1	31	881	-117.0	-123.7	27	114.6	31	871	-119.5	-126.2	27	117.1	31	861	-122.0	-128.7	27	119.6	31	851	-124.5	-131.2	27	122.1	31	841	-127.0	-133.7	27	124.6	31	831	-129.5	-136.2	27	127.1	31	821	-132.0	-138.7	27	129.6	31	811	-134.5	-141.2	27	132.1	31	801	-137.0	-143.7	27	134.6	31	791	-139.5	-146.2	27	137.1	31	781	-142.0	-148.7	27	139.6	31	771	-144.5	-151.2	27	142.1	31	761	-147.0	-153.7	27	144.6	31	751	-149.5	-156.2	27	147.1	31	741	-152.0	-158.7	27	149.6	31	731	-154.5	-161.2	27	152.1	31	721	-157.0	-163.7	27	154.6	31	711	-159.5	-166.2	27	157.1	31	701	-162.0	-168.7	27	159.6	31	691	-164.5	-171.2	27	162.1	31	681	-167.0	-173.7	27	164.6	31	671	-169.5	-176.2	27	167.1	31	661	-172.0	-178.7	27	169.6	31	651	-174.5	-181.2	27	172.1	31	641	-177.0	-183.7	27	174.6	31	631	-179.5	-186.2	27	177.1	31	621	-182.0	-188.7	27	179.6	31	611	-184.5	-191.2	27	182.1	31	601	-187.0	-193.7	27	184.6	31	591	-189.5	-196.2	27	187.1	31	581	-192.0	-198.7	27	189.6	31	571	-194.5	-201.2	27	192.1	31	561	-197.0	-203.7	27	194.6	31	551	-199.5	-206.2	27	197.1	31	541	-202.0	-208.7	27	199.6	31	531	-204.5	-211.2	27	202.1	31	521	-207.0	-213.7	27	204.6	31	511	-209.5	-216.2	27	207.1	31	501	-212.0	-218.7	27	209.6	31	491	-214.5	-221.2	27	212.1	31	481	-217.0	-223.7	27	214.6	31	471	-219.5	-226.2	27	217.1	31	461	-222.0	-228.7	27	219.6	31	451	-224.5	-231.2	27	222.1	31	441	-227.0	-233.7	27	224.6	31	431	-229.5	-236.2	27	227.1	31	421	-232.0	-238.7	27	229.6	31	411	-234.5	-241.2	27	232.1	31	401	-237.0	-243.7	27	234.6	31	391	-239.5	-246.2	27	237.1	31	381	-242.0	-248.7	27	239.6	31	371	-244.5	-251.2	27	242.1	31	361	-247.0	-253.7	27	244.6	31	351	-249.5	-256.2	27	247.1	31	341	-252.0	-258.7	27	249.6	31	331	-254.5	-261.2	27	252.1	31	321	-257.0	-263.7	27	254.6	31	311	-259.5	-266.2	27	257.1	31	301	-262.0	-268.7	27	259.6	31	291	-264.5	-271.2	27	262.1	31	281	-267.0	-273.7	27	264.6	31	271	-269.5	-276.2	27	267.1	31	261	-272.0	-278.7	27	269.6	31	251	-274.5	-281.2	27	272.1	31	241	-277.0	-283.7	27	274.6	31	231	-279.5	-286.2	27	277.1	31	221	-282.0	-288.7	27	279.6	31	211	-284.5	-291.2	27	282.1	31	201	-287.0	-293.7	27	284.6	31	191	-289.5	-296.2	27	287.1	31	181	-292.0	-298.7	27	289.6	31	171	-294.5	-301.2	27	292.1	31	161	-297.0	-303.7	27	294.6	31	151	-299.5	-306.2	27	297.1	31	141	-302.0	-308.7	27	299.6	31	131	-304.5	-311.2	27	302.1	31	121	-307.0	-313.7	27	304.6	31	111	-309.5	-316.2	27	307.1	31	101	-312.0	-318.7	27	309.6	31	91	-314.5	-321.2	27	312.1	31	81	-317.0	-323.7	27	314.6	31	71	-319.5	-326.2	27	317.1	31	61	-322.0	-328.7	27	319.6	31	51	-324.5	-331.2	27	322.1	31	41	-327.0	-333.7	27	324.6	31	31	-329.5	-336.2	27	327.1	31	21	-332.0	-338.7	27	329.6	31	11	-334.5	-341.2	27	332.1	31	1	-337.0	-343.7	27	334.6	31	0	-339.5	-346.2	27	337.1	31	0	-342.0	-348.7	27	339.6	31	0	-344.5	-351.2	27	342.1	31	0	-347.0	-353.7	27	344.6	31	0	-349.5	-356.2	27	347.1	31	0	-352.0	-358.7	27	349.6	31	0	-354.5	-361.2	27	352.1	31	0	-357.0	-363.7	27	354.6	31	0	-359.5	-366.2	27	357.1	31	0	-362.0	-368.7	27	359.6	31	0	-364.5	-371.2	27	362.1	31	0	-367.0	-373.7	27	364.6	31	0	-369.5	-376.2	27	367.1	31	0	-372.0	-378.7	27	369.6	31	0	-374.5	-381.2	27	372.1	31	0	-377.0	-383.7	27	374.6	31	0	-379.5	-386.2	27	377.1	31	0	-382.0	-388.7	27	379.6	31	0	-384.5	-391.2	27	382.1	31	0	-387.0	-393.7	27	384.6	31	0	-389.5	-396.2	27	387.1	31	0	-392.0	-398.7	27	389.6	31	0	-394.5	-401.2	27	392.1	31	0	-397.0	-403.7	27	394.6	31	0	-399.5	-406.2	27	397.1	31	0	-402.0	-408.7	27	399.6	31	0	-404.5	-411.2	27	402.1	31	0	-407.0	-413.7	27	404.6	31	0	-409.5	-416.2	27	407.1	31	0	-412.0	-418.7	27	409.6	31	0	-414.5	-421.2	27	412.1	31	0	-417.0	-423.7	27	414.6	31	0	-419.5	-426.2	27	417.1	31	0	-422.0	-428.7	27	419.6	31	0	-424.5	-431.2	27	422.1	31	0	-427.0	-433.7	27	424.6	31	0	-429.5	-436.2	27	427.1	31	0	-432.0	-438.7	27	429.6	31	0	-434.5	-441.2	27	432.1	31	0	-437.0	-443.7	27	434.6	31	0	-439.5	-446.2	27	437.1	31	0	-442.0	-448.7	27	439.6	31	0	-444.5	-451.2	27	442.1	31	0	-447.0	-453.7	27	444.6	31	0	-449.5	-456.2	27	447.1	31	0	-452.0	-458.7	27	449.6	31	0	-454.5	-461.2	27	452.1	31	0	-457.0	-463.7	27	454.6	31	0	-459.5	-466.2	27	457.1	31	0	-462.0	-468.7	27	459.6	31	0	-464.5	-471.2	27	462.1	31	0	-467.0	-473.7	27	464.6	31	0	-469.5	-476.2	27	467.1	31	0	-472.0	-478.7	27	469.6	31	0	-474.5	-481.2	27	472.1	31	0	-477.0	-483.7	27	474.6	31	0	-479.5	-486.2	27	477.1	31	0	-482.0	-488.7	27	479.6	31	0	-484.5	-491.2	27	482.1	31	0	-487.0	-493.7	27	484.6	31	0	-489.5	-496.2	27	487.1	31	0	-492.0	-498.7	27	489.6	31	0	-494.5	-501.2	27	492.1	31	0	-497.0	-503.7	27	494.6	31	0	-499.5	-506.2	27	497.1	31	0	-502.0	-508.7	27	499.6	31	0	-504.5	-511.2	27	502.1	31	0	-507.0	-513.7	27	504.6	31	0	-509.5	-516.2	27	507.1	31	0	-512.0	-518.7	27	509.6	31	0	-514.5	-521.2	27	512.1	31	0	-517.0	-523.7	27	514.6	31	0	-519.5	-526.2	27	517.1	31	0	-522.0	-528.7	27	519.6	31	0	-524.5	-531.2	27	522.1	31	0	-527.0	-533.7	27	524.6	31	0	-529.5	-536.2	27	527.1	31	0	-532.0	-538.7	27	529.6	31	0	-534.5	-541.2	27	532.1	31	0	-537.0	-543.7	27	534.6	31	0	-539.5	-546.2	27	537.1	31	0	-542.0	-548.7	27	539.6	31	0	-544.5	-551.2	27	542.1	31	0	-547.0	-55

Average monthly values

MARCH 1974

GRAND JUNCTION, COL. 845 MB										GREAT FALLS, MONT. 882 MB										GREEN BAY, WIS. 989 MB										GREENSBORO, N. C. 984 MB										GUADALUPE IS., MEXICO 1015 MB									
Standard pressure surface (mb.)		Dynamic height		Temperature		Dew Point †		Resultant Wind		No. of observations		Dynamic height		Temperature		Dew Point †		Resultant Wind		No. of observations		Dynamic height		Temperature		Dew Point †		Resultant Wind		No. of observations		Dynamic height		Temperature		Dew Point †		Resultant Wind		No. of observations									
SURFACE	31	14.72	4.6	-3.9	14	1.3	31	1.118	-1.6	-8.3	23	4.4	31	210	-3.5	-6.6	35	1.1	31	275	6.5	2.8	29	.6	31	23	13.5	9.7	32	9.5	31	23	13.5	9.7	32	9.5	31	23	13.5	9.7	32	9.5							
1000																																																	
950																																																	
900																																																	
850	16	14.99	5.3	-5.2	13	2.7	31	1.410	-1.1	-9.8	29	7.8	31	528	-4.2	-9.6	32	1.0	31	565	8.9	1.1	27	.8	31	149	12.7	9.0	32	6.5	31	149	12.7	9.0	32	6.5	31	149	12.7	9.0	32	6.5							
800	31	1.958	1.2	-10.8	26	1.6	31	1.891	-4.0	-11.9	26	8.5	31	1.403	-5.6	-12.9	29	2.0	31	1.24	2.6	28	1.0	31	3.8	17.8	10.8	3.4	31	4.3	31	1.028	9.4	-2.5	31	1.028	9.4	-2.5	31	1.028	9.4	-2.5	31	1.028	9.4	-2.5			
750	31	2.461	1.4	-10.8	25	4.7	31	2.897	-7.4	-12.9	28	10.7	31	2.382	-8.3	-19.5	28	11.4	31	1.483	6.2	-1.6	29	9.5	31	1.502	8.7	-7.7	30	3.3	31	1.502	8.7	-7.7	30	3.3	31	1.502	8.7	-7.7	30	3.3							
700	31	3.092	-3.1	-12.3	26	7.6	31	2.931	-10.8	-17.1	28	11.1	31	2.914	-11.2	-22.0	29	13.0	31	1.979	4.4	-4.5	28	11.9	31	2.002	7.0	-10.8	30	4.6	31	2.002	7.0	-10.8	30	4.6	31	2.002	7.0	-10.8	30	4.6							
650	31	3.614	-3.1	-14.7	26	10.4	31	3.497	-14.4	-21.1	28	11.9	31	3.480	-14.2	-26.0	29	15.1	31	3.056	-4.2	-15.6	27	16.9	31	3.685	-1.2	-20.5	27	6.0	31	3.685	-1.2	-20.5	27	6.0	31	3.685	-1.2	-20.5	27	6.0							
600	31	4.233	-11.2	-20.0	26	12.8	31	4.100	-17.9	-25.2	28	13.4	31	4.084	-17.5	-28.7	28	17.6	31	4.272	-7.9	-20.6	27	18.5	31	4.818	-3.4	-24.3	25	7.2	31	4.818	-3.4	-24.3	25	7.2	31	4.818	-3.4	-24.3	25	7.2							
550	31	4.896	-13.4	-23.6	27	14.0	31	4.746	-21.8	-29.7	28	19.1	31	4.731	-21.1	-31.1	28	20.1	31	4.984	-12.0	-24.3	27	21.5	31	4.985	-1.0	-26.0	24	11.5	31	4.985	-1.0	-26.0	24	11.5	31	4.985	-1.0	-26.0	24	11.5							
500	31	5.609	-20.1	-30.6	27	16.4	31	5.461	-26.4	-33.8	28	17.2	31	5.428	-25.6	-35.8	28	23.1	31	5.666	-17.0	-29.8	26	23.9	31	5.722	-19.2	-31.1	26	11.5	31	5.722	-19.2	-31.1	26	11.5	31	5.722	-19.2	-31.1	26	11.5							
450	31	6.932	-25.3	-35.4	27	18.3	31	6.195	-31.7	-38.8	28	17.6	31	6.184	-30.7	-38.8	28	26.4	31	6.449	-22.4	-34.4	28	27.0	31	6.510	-20.8	-34.2	26	13.6	31	6.510	-20.8	-34.2	26	13.6	31	6.510	-20.8	-34.2	26	13.6							
400	31	7.727	-31.7	-40.8	27	20.5	31	7.017	-38.1	-43.0	29	19.6	31	7.011	-36.2	-44.1	28	29.7	31	7.303	-28.7	-39.3	28	28.6	31	7.370	-27.1	-39.8	26	16.7	31	7.370	-27.1	-39.8	26	16.7	31	7.370	-27.1	-39.8	26	16.7							
350	31	8.102	-38.6	-44.9	27	23.0	31	7.926	-44.6		28	21.9	31	7.929	-42.2	-46.4	28	33.8	31	8.248	-36.0	-46.0	28	31.9	31	8.321	-34.5	-45.3	26	16.7	31	8.321	-34.5	-45.3	26	16.7	31	8.321	-34.5	-45.3	26	16.7							
300	31	9.199	-46.5		27	26.3	31	8.942	-50.4		28	24.6	31	8.954	-48.4		28	36.0	31	9.298	-43.8		28	35.9	31	9.377	-43.0		27	16.7	31	9.377	-43.0		27	16.7	31	9.377	-43.0		27	16.7							
250	31	10.387	-54.6		27	29.2	31	10.120	-54.1		28	26.8	31	10.138	-54.0		27	36.6	31	10.499	-52.7		28	39.3	31	10.582	-51.9		27	16.8	31	10.582	-51.9		27	16.8	31	10.582	-51.9		27	16.8							
200	31	11.802	-57.5		27	27.6	31	11.553	-59.2		28	20.2	31	11.566	-59.4		27	35.1	31	11.117	-59.0		28	40.9	31	12.007	-57.3		27	16.8	31	12.007	-57.3		27	16.8	31	12.007	-57.3		27	16.8							
175	31	12.647	-56.6		27	26.6	31	12.416	-51.8		27	19.9	31	12.423	-53.8		27	35.8	31	12.756	-58.3		28	39.6	31	12.850	-56.8		27	16.9	31	12.850	-56.8		27	16.9	31	12.850	-56.8		27	16.9							
150	31	13.624	-57.5		27	26.6	31	13.417	-51.6		27	17.2	31	13.413	-53.6		28	27.3	31	13.727	-58.1		28	33.9	31	13.818	-60.0		26	17.5	31	13.818	-60.0		26	17.5	31	13.818	-60.0		26	17.5							
125	31	14.773	-58.7		26	17.4	30	14.608	-52.8		27	14.2	30	14.586	-54.6		28	23.6	31	14.867	-61.4		28	31.2	31	14.946	-63.5		26	16.3	31	14.946	-63.5		26	16.3	31	14.946	-63.5		26	16.3							
100	31	16.108	-60.3		27	13.1	29	16.043	-52.5		28	11.3	30	16.008	-56.1		28	21.8	30	16.234	-64.4		28	24.0	29	16.301	-67.3		26	12.7	31	16.301	-67.3		26	12.7	31	16.301	-67.3		26	12.7							
80	30	17.554	-61.1		27	8.0	28	17.480	-53.6		29	8.0	30	17.427	-56.0		28	19.7	30	17.595	-64.8		28	18.4	27	17.644	-67.0		25	9.9	31	17.644	-67.0		25	9.9	31	17.644	-67.0		25	9.9							
60	29	18.387	-60.0		28	4.5	28	18.339	-53.4		30	6.0	30	18.278	-59.1		29	11.5	29	18.410	-64.1		28	19.3	27	18.452	-66.3		25	8.6	31	18.452	-66.3		25	8.6	31	18.452	-66.3		25	8.6							
40	29	19.349	-59.3		32	2.1	27	19.337	-52.3		31	4.2	29	19.269	-59.1		31	8.4	29	19.360	-62.1		29	10.1	27	19.387	-65.7		26	5.6	31	19.387	-65.7		26	5.6	31	19.387	-65.7		26	5.6							
20	28	20.497	-57.3		30	2.9	27	20.520	-50.9		35	3.8	28	20.482	-56.9		31	8.4	29	20.520	-60.0		30	9.9	29	20.499	-63.8		26	5.6	31	20.499	-63.8		26	5.6	31	20.499	-63.8		26	5.6							
0	28	21.913	-55.9		05	9.2	28	21.972	-50.9		05	9.2	28	21.885	-52.5		01	5.6	29	21.896	-97.7		35	3.0	24	21.882	-60.2		07	2.7	31	21.882	-60.2		07	2.7	31	21.882	-60.2		07	2.7							
30	24	23.749	-54.4		07	12.1	24	23.850	-50.4		07	11.1	28	23.750	-51.5		05	8.0	28	23.718	-94.3		04	3.7	24	23.909	-57.2		06	4.0	31	23.909	-57.2		06	4.0	31	23.909	-57.2		06	4.0							
25	28	24.922	-53.4		07	14.4	23	25.044	-50.0		07	13.2	27	24.936	-50.6		06	10.9	23	24.891	-92.6		05	4.2	23	24.851	-55.2		06	4.0	31	24.851	-55.2		06	4.0	31	24.851	-55.2		06	4.0							
20	26	26.362	-51.7		08	19.8	22	26.511	-49.1		07	17.25	26	26.397	-49.2		06	12.4	22	26.393	-91.7		06	5.7	21	26.283	-52.4		06	4.0	31	26.283	-52.4		06	4.0	31	26.283	-52.4		06	4.0							
15	28	28.250	-49.4		07	18.0	20	28.397	-48.3		07	18.0	19	28.279	-47.7		07	14.5	16	28.231	-99.3		07	7.7	14	28.158	-49.9		08	7.4	31	28.158	-49.9		08	7.4	31	28.158	-49.9		08	7.4							
10	18	30.414	-47.1			14	31	30.052	-47.7		08	20.0	11	30.946	-60.9		07	13.9	6	30.939	-87.1																												

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Average monthly values

LAKE CHARLES, LA. 1015 MB											LANDER, WYO. 823 MB											LIHU KAUAI, HAWAII 1013 MB											LITTLE ROCK, ARK. 1006 MB											MCGRATH, ALASKA 999 MB										
Standard pressure surface (mb)		No. of observations		Dynamic height		Temperature		Dew Point		Recurrent Wind		No. of observations		Dynamic height		Temperature		Dew Point		Recurrent Wind		No. of observations		Dynamic height		Temperature		Dew Point		Recurrent Wind		No. of observations		Dynamic height		Temperature		Dew Point		Recurrent Wind														
Direction	Speed	M.p.s.	Direction	Speed	M.p.s.	Direction	Speed	M.p.s.	Direction	Speed	M.p.s.	Direction	Speed	M.p.s.	Direction	Speed	M.p.s.	Direction	Speed	M.p.s.	Direction	Speed	M.p.s.	Direction	Speed	M.p.s.	Direction	Speed	M.p.s.	Direction	Speed	M.p.s.	Direction	Speed	M.p.s.	Direction	Speed	M.p.s.	Direction	Speed	M.p.s.													
SURFACE	31	3	28.1	23.5	09	4.5	31	4.01	3.8	1.9	24	3	31	11	20.3	19.5	11	1.8	30	4	20.6	17.8	11	3	31	874	11.0	2.7	22	1.5																								
1000	31	94	28.3	22.5	10	3.5	31	4.5	31	125	17.1	19.9	12	5.3	30	157	21.1	17.5	13	1.6																																		
950	31	546	23.1	20.8	10	5.9	31	546	4.9	1.9	19	6.31	571	20.7	15.5	13	8.5	30	600	18.1	14.1	14	2.3																															
900	31	1017	20.2	17.1	10	6.0	31	987	3.8	-4.8	27	6.31	1038	19.6	9.3	13	6.9	30	1062	15.7	7.8	14	1.1	31	995	13.3	3.9	22	2.9																									
850	31	1509	17.2	14.2	10	5.8	31	1450	1.8	-4.0	21	6.5	1528	16.6	5.9	13	5.2	30	1545	12.6	3.4	15	.5	31	1478	14.6	-1.0	24	6.9																									
800	31	2027	15.0	11.1	10	5.5	31	1937	-1.8	-7.4	23	6.4	2042	14.0	-4.1	14	3.6	30	2052	10.9	-3.9	25	.9	31	1989	12.2	-4.7	26	8.5																									
750	31	2572	12.5	8.0	09	4.8	31	2450	-3.5	-11.7	25	10.4	2584	11.4	-6.4	14	3.2	30	2585	8.9	-9.2	22	2.1	31	2526	9.0	-8.5	26	9.2																									
700	31	3149	9.5	1.6	09	4.2	31	2992	-6.2	-15.3	25	11.1	3157	8.7	-9.7	14	2.4	30	3156	5.7	-14.3	28	3.2	31	3092	6.5	-12.8	26	9.6																									
650	31	3761	6.1	-1.0	08	4.4	31	3568	-10.1	-19.0	25	11.1	3764	6.4	-12.2	15	1.3	30	3758	2.5	-16.9	29	4.2	31	3691	-1	-15.5	26	9.6																									
600	31	4414	2.8	-5.8	09	5.0	31	4180	-13.7	-22.2	26	12.8	4411	-6	-17.0	30	4301	-1.4	-19.8	29	4.9	31	4326	-4.7	-19.2	25	11.4																											
550	31	5114	-1.0	-9.7	09	4.5	31	4837	-17.7	-27.5	26	14.2	5105	-3.1	-21.9	29	1.3	30	5088	-5.8	-23.4	28	6.4	31	5004	-9.9	-22.5	25	13.6																									
500	31	5870	-5.3	-14.9	08	5.5	31	5554	-22.6	-31.8	26	15.3	5852	-8.2	-25.6	28	1.8	30	5828	-10.7	-27.8	28	8.6	31	5733	-14.8	-27.8	24	15.7																									
450	31	6691	-9.6	-21.5	08	5.5	31	6309	-27.7	-37.2	26	16.1	6662	-13.8	-29.6	29	3.1	30	6630	-16.0	-32.9	28	10.9	31	6521	-20.5	-32.1	25	18.1																									
400	31	7592	-14.7	-29.2	07	5.7	31	7144	-34.2	-42.6	27	17.7	7565	-4.4	-36.1	25	3.9	30																																				

Average monthly values

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[illegible]

PITTSBURGH, PA. W72 MB										PONAPE, CAROLINE IS. 1004 MB										PORTLAND, MAINE 1010 MB										QUILLAYUTE, WASH. 1004 MB										RAPID CITY, S. DAK. 900 MB									
SURFACE		31	359	2.1	-2.6	2.6	9	31	39	29.1	24.2	08	2.6	31	20	-2.4	-9.0	29	1.6	29	58	4.1	2.9	15	1.7	31	966	-9	-8.1	31	2.2																		
1000								31	75	27.2	22.8	08	2.8	26	194	-3.0	-11.4	29	2.9	21	119	3.8	2.7	16	1.3																								
950		31	540	2.4	-3.2	2.6	2.9	31	529	23.6	20.8	10	4.6	31	505	-3.8	-11.2	28	5.1	29	505	3.0	1.8	19	5.4																								
900		31	976	1.8	-5.2	2.7	7.9	31	1,000	20.5	17.6	11	5.8	31	931	-5.4	-13.4	29	6.7	29	942	1.0	-2.4	20	6.8	18	1,007	-3.8	-9.8	34	3.2																		
850		31	1,435	-2	-8.1	2.8	11.2	31	1,493	17.9	13.2	11	5.0	31	1,378	-6.9	-15.4	29	8.7	29	1,400	-1.2	0.6	22	7.6	31	1,420	4	-11.1	30	7.2																		
800		31	1,919	-1.7	-7.5	2.8	13.3	31	2,012	15.8	9.7	10	4.1	31	1,850	-7.9	-17.6	29	11.1	29	1,881	-3.7	-10.7	23	8.2	31	1,905	-1.4	-12.5	29	9.8																		
750		31	2,431	-4.2	-12.9	2.8	15.6	31	2,558	12.6	7.4	10	3.7	31	2,351	-9.6	-19.6	28	13.7	29	2,389	-6.5	-14.4	24	8.6	31	2,417	-4.2	-13.4	29	11.4																		
700		31	2,973	-6.5	-16.0	2.8	18.2	31	3,135	9.3	3.7	09	4.1	31	2,883	-11.3	-22.4	28	17.0	29	2,925	-9.8	-16.1	24	9.7	31	2,958	-7.7	-16.5	29	11.9																		
650		31	3,550	-9.2	-19.5	2.8	20.8	31	3,747	6.0	-3.9	09	4.6	31	3,449	-14.0	-25.7	28	20.0	29	3,493	-13.1	-19.3	25	9.7	31	3,590	-11.5	-18.7	29	13.2																		
600		31	4,165	-12.8	-23.2	2.8	22.8	31	4,395	2.4	-5.0	09	4.3	40	3,840	-28.7	-38.7	28	24.3	29	4,018	-23.0	-29.0	29	10.5	31	4,139	-15.3	-23.7	29	14.8																		
550		31	4,834	-16.9	-27.1	2.8	25.5	31	5,098	-5.2	-9.0	09	5.1	31	4,700	-21.0	-32.1	28	27.6	29	4,747	-20.8	-27.3	26	11.6	31	4,792	-19.2	-27.6	28	17.5																		
500		31	5,533	-21.1	-30.8	2.8	28.6	31	5,853	-5.3	-16.1	09	5.6	31	5,398	-25.4	-35.5	27	30.3	29	5,446	-25.3	-31.3	26	13.5	31	5,494	-24.1	-31.4	28	20.7																		
450		31	6,302	-26.6	-35.1	2.8	30.0	31	6,674	-9.9	-19.7	09	6.2	31	6,154	-30.5	-41.0	28	33.2	28	6,205	-30.6	-34.8	26	15.0	31	6,255	-29.6	-36.5	28	22.5																		
400		31	7,143	-32.7	-41.1	2.8	34.1	31	7,573	-15.4	-26.5	09	6.8	30	6,988	-36.3	-46.7	28	36.3	26	7,037	-36.4	-40.2	26	16.4	31	7,085	-35.6	-42.5	28	24.9																		
350		31	8,073	-39.4	-44.5	2.8	36.0	31	8,571	-22.3	-34.7	09	6.7	30	7,905	-42.4	-44.9	28	34.5	25	7,960	-43.1	-42.1	27	17.7	31	8,003	-42.4	-45.7	28	26.8																		
300		31	9,108	-47.2			38.2	31	9,682	-30.5	-43.3	09	7.0	30	8,928	-49.6		27	35.8	25	8,980	-50.0		27	18.4	31	9,026	-49.2		27	28.8																		
250		31	10,292	-54.9			42.3	30	10,951	-40.8	-52.0	10	7.0	30	10,108	-54.4		28	35.7	23	10,155	-55.9		28	17.8	31	10,208	-54.1		27	30.8																		
200		31	11,709	-56.9			48.2	30	12,429	-53.4		10	7.9	30	11,536	-56.3		28	30.2	21	11,576	-54.3		28	18.1	31	11,638	-54.5		27	28.6																		
175		31	12,555	-56.7			53.3	30	13,275	-50.1		10	7.4	30	12,393	-53.8		28	27.8	25	12,436	-52.1		28	15.7	29	12,497	-54.5		27	29.4																		
150		31	13,533	-56.8			58.2	30	14,220	-67.7		07	7.9	30	13,385	-54.0		28	26.0	24	13,427	-52.3		28	13.9	29	13,484	-54.2		27	22.2																		
125		31	14,684	-58.5			63.0	30	15,297	-75.1		07	8.0	30	14,553	-54.9		28	24.6	24	14,607	-52.5		29	11.9	29	14,651	-55.3		28	20.0																		
100		31	16,080	-60.0			68.2	30	16,566	-82.7		09	8.2	29	15,979	-55.6		28	20.7	22	16,053	-53.0		29	8.3	29	16,072	-56.6		28	15.0																		
75		31	17,473	-60.4			73.7	28	17,813	-79.5		09	3.0	29	17,397	-56.2		28	14.6	21	17,486	-53.5		31	5.3	27	17,486	-57.1		29	10.8																		
50		31	18,309	-59.2			78.5	24	18,581	-73.7		27	4.0	29	18,248	-55.5		28	14.5	20	18,339	-53.0		32	3.4	26	18,333	-57.2		30	8.0																		
25		31	19,277	-58.5			83.9	29	19,489	-70.6		27	7.5	29	19,232	-55.1		29	11.3	19	19,328	-52.4		34	4.5	26	19,311	-55.6		33	5.4																		
0		31	20,426	-57.3			90.2	30	20,584	-65.4		27	8.6	29	20,398	-54.6		29	6.9	19	20,505	-51.5		03	3.9	25	20,478	-54.5		01	5.2																		
		31	21,839	-55.4			97.5	30	21,995	-71.4		27	9.3	30	21,807	-61.4		29	6.3	19	21,915	-51.4		07	4.8	25	21,895	-54.5		04	5.2																		
		31	23,679	-53.7			105.0	29	23,754	-67.6		09	6.6	25	23,705	-51.6		36	4.2	15	23,839	-50.2		07	8.5	19	23,753	-52.6		06	10.8																		
		25	24,853	-52.8			112.7	26	24,907	-55.6		09	16.1	25	24,891	-51.2		01	4.7	14	25,032	-49.8		08	11.6	18	24,938	-51.7		06	14.2																		
		20	26,308	-51.7			120.0	27	26,325	-53.4		09	24.1	23	26,343	-50.8		05	6.7	13	26,491	-49.6		08	15.0	16	26,380	-50.7		07	16.6																		
		15	28,178	-49.5			127.0	27	28,182	-49.6		09	29.5	20	28,232	-50.0		04	8.6	10	28,388	-48.8		08	17.3	15	28,259	-49.7		07	17.6																		
		10	30,853	-47.7			134.0	25	30,939	-40.1		11	30	30,907	-47.6												8	30,921	-47.6																				

ST CLOUD, MINN. 976 MB										ST PAUL IS., ALASKA 1005 MB										SALEM, ILL. 994 MB										SALEM, OREG. 1006 MB										SALT LAKE CITY, UTAH 869 MB									
SURFACE	31	316	-6.4	-9.3	36	6.3	10	-3.5	44.8	07	3.7	31	174	4.6	2.4	25	1.0	31	61	5.3	1.8	20	2.3	31	1288	4.6	-2.7	15	2.5																				
1000						18	131	-5.9	-8.5	05	1.9	8	195	-4.3	-6.9		24	135	5.9	2.0	20	1.8																											
950	20	537	-6.4	-10.6	06	4.3	152	-6.3	-7.9	10	3.8	31	543	5.0		22	4.0	31	528	4.9	-8.20	4.8																											
900	31	954	-5.0	-12.1	28	2.8	878	-4.9	-9.6	12	2.8	31	984	4.4	-2.5	27	7.1	968	2.8	-1.8	21	7.0																											
850	31	1463	-6.7	-12.5	28	6.1	133	-6.7	-12.4	16	2.1	31	1469	7.7	-6.5	28	10.6	1428		-4.3	23	8.0																											
800	31	1860	-6.8	-13.9	9	8.5	31	-7.99	-8.5	-15.9	14	1.9	31	1941	1.7	-10.1	28	12.0	1913	-2.1	-7.8	23	9.3	31	1958	2.5	-8.4	20	9.1																				
750	31	2384	-7.8	-18.3	27	11.2	31	2297	-10.8	-18.9	14	2.1	31	2459	-4.4	-13.8	28	13.0	2423	-4.8	-11.5	24	10.4	31	2477	-1.1	-9.8	24	9.3																				
700	31	2918	-10.5	-20.0	27	13.6	31	2825	-13.7	-21.8	18	1.8	31	3008	-3.2	-16.9	27	15.1	2963	-7.7	-15.9	25	11.1	31	3023	-5.3	-12.5	26	7.9																				
650	31	3465	-13.7	-22.4	27	15.8	31	3385	-16.9	-24.8	17	1.9	31	3591	-6.4	-18.9	27	16.8	3357	-11.0	-19.1	25	11.5	31	3601	-9.1	-14.0	26	10.7																				
600	31	4089	-17.3	-25.1	27	17.7	31	3982	-20.6	-28.9	19	2.0	31	4213	-10.0	-22.2	27	19.6	4147	-14.8	-22.8	25	12.8	31	4216	-12.7	-19.3	27	13.2																				
550	31	4736	-21.4	-30.2	28	19.8	31	4620	-24.6	-33.4	22	3.2	31	4879	-14.1	-25.1	27	22.6	4801	-19.0	-26.4	25	13.4	31	4875	-17.0	-25.0	27	15.1																				
500	31	5432	-26.3	-32.6	27	21.9	31	5308	-29.2	-38.6	22	2.9	31	5595	-18.8	-30.1	27	26.0	5504	-23.6	-31.4	26	14.2	31	5584	-21.8	-29.6	27	17.1																				
450	31	6186	-31.4	-37.4	24	24.8	31	6053	-34.2	-41.8	23	3.3	31	6373	-24.0	-35.6	27	27.3	6287	-27.7	-36.2	26	16.7	31	6352	-27.0	-34.5	27	19.7																				
400	31	7011	-37.2	-40.3	28	28.7	31	6867	-39.3	-44.8	23	2.1	31	7222	-30.5	-40.2	27	29.5	7109		-42.6	27	15.7	31	7191	-33.0	-40.7	27	20.6																				
350	31	7923	-43.2	-44.3	27	31.8	31	7772	-45.5		24	3.3	31	8160	-37.7	-44.6	27	32.0	8019	-62.2		-65.7	27	16.4	31	8119	-40.0	-44.1	27	19.4																			
300	31	8943	-49.9		27	34.2	31	8785	-50.5		24	6.4	31	9201	-45.9		27	34.3	9104	-69.1			27	17.7	30	9150	-47.8		27	14.4																			
250	31	10122	-54.5		27	36.1	30	9972	-51.0		25	7.1	31	10393	-53.9		27	34.4	31	10224	-54.6		27	19.0	30	10332	-55.2		28	22.5																			
200	31	11549	-54.5		27	32.8	30	11437	-47.3		22	5.1	31	11809	-58.3		27	35.1	31	11645	-55.5		27	18.0	30	11745	-57.3		27	21.2																			
175	31	12406	-53.5		28	29.5	30	12323	-46.5		21	4.9	31	12651	-57.1		27	35.1	31	12502	-53.2		27	15.8	30	12590	-57.1		27	19.8																			
150	31	13396	-54.0		28	26.9	29	13352	-46.5		20	3.7	31	13625	-58.5		27	34.2	31	13495	-53.1		27	14.3	30	13566	-57.3		27	18.5																			
125	31	14566	-54.6		28	23.1	29	14560	-47.2		20	3.6	31	14767	-60.0		28	28.0	31	14669	-54.1		28	11.8	29	14671	-57.9		27	15.2																			
100	31	15991	-55.9		28	19.3	29	15977	-47.3		17	4.1	31	16149	-61.7		27	18.5	29	16105	-54.6		28	8.6	29	16119	-58.0		27	10.0																			
75	31	17441	-55.7		28	13.7	29	17513	-47.0		14	2.8	31	17622	-62.0		27	13.8	29	17530	-54.5		30	9.9	29	17551	-59.1		27	5.5																			
60	31	18263	-55.4		30	10.4	29	18399	-46.8		15	4.3	27	18344	-61.3		29	10.1	28	18385	-54.7		31	3.5	28	18356	-59.3		29	3.7																			
45	31	19249	-5.3		31	7.6	28	19420	-46.1		13	4.8	25	19301	-59.6		30	6.7	28	19374	-53.7		35	2.5	27	19324	-55.1		29	2.1																			
30	31	20422	-53.2		34	5.3	28	20630	-46.5		13	5.8	25	20446	-58.1		32	3.5	28	20548	-52.6		05	4.5	27	20477	-56.5		04	2.4																			
15	29	21861	-53.3		03	5.8	28	22212	-46.5		11	7.0	24	21857	-56.6		02	3.6	26	21998	-52.3		07	7.1	25	21893	-55.4		06	5.1																			
0	30	23725	-51.7		05	9.1	28	24022	-46.3		11	7.6	24	23690	-54.5		06	6.1	26	23864	-51.2		07	12.2	27	23798	-54.0		07	9.7																			
25	27	24909	51.4		06	10.4	26	25241	-46.0		11	9.2	23	24860	-53.1		07	7.8	26	25051	-50.6		08	14.8	21	24914	-52.8		07	12.9																			
75	27	26365	-49.6		06	12.0	25	26718	-45.5		11	9.8	22	26318	-50.8		07	8.8	25	26508	-49.5		08	17.4	18	26630	-52.0		08	14.8																			
125	27	28236	-49.1		06	13.6	24	28650	-43.9		10	10.6	20	28116	-48.7		07	10.1	19	28608	-48.6		08	21.0	13	28624	-50.6		08	14.4																			
175	27	30920	-47.7		06	13.4	22	31380	-42.5		10	13.4	11	30875	-45.7						-47.2			11	20899	-48.6																							
225	27				07	17	33873	-40.5		10	16.6																																						
275	27				05	3	36614	-38.1																																									

RAWINSONDE DATA

Average monthly values

SAN DIEGO, CALIF. 1001 MB										SAN JUAN, P. R. 1016 MB										SAULT STE MARIE, MICH. 988 MB										SHREVEPORT, LA. 1006 MB										SPokane, WASH. 927 MB									
Standard pressure surface (mb.)										Standard pressure surface (mb.)										Standard pressure surface (mb.)										Standard pressure surface (mb.)										Standard pressure surface (mb.)									
No. of observations										No. of observations										No. of observations										No. of observations										No. of observations									
Dynamic height										Dynamic height										Dynamic height										Dynamic height										Dynamic height									
Temperature										Temperature										Temperature										Temperature										Temperature									
Dew Point										Dew Point										Dew Point										Dew Point										Dew Point									
Direction										Direction										Direction										Direction										Direction									
Speed										Speed										Speed										Speed										Speed									
M.p.h.										M.p.h.										M.p.h.										M.p.h.										M.p.h.									
SURFACE	31	124	10.5	8.6	0.9	3.3	31	23.2	17.5	13	2.2	31	221	-8.0	-12.7	05	.6	31	79	13.3	11.2	1.1	31	720	.7	-3.7	26	2.6	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6									
1000	24	148	11.3	8.7	.35	3.3	31	22.2	18.6	09	5.2	5	236	-9.9	-20.3	31	1.5	31	137	13.1	10.5	1.3	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6									
950	31	503	10.6	5.9	.23	3.3	31	19.0	16.4	09	7.8	31	522	-8.0	-12.7	31	1.5	31	501	12.8	8.7	1.3	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6									
900	31	1013	9.2	-1.0	.29	1.8	31	15.05	15.7	12.6	28	1.1	31	942	-8.4	-15.0	30	3.3	31	1016	12.1	5.3	29	8.9	31	957	2.0	-5.4	22	5.1	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6							
850	31	1485	7.1	-5.6	.28	3.2	31	11.539	12.3	8.6	28	6.6	31	1385	-9.5	-15.7	29	6.5	31	1495	11.7	1.4	28	9.3	31	1417	-3.3	-7.9	24	6.2	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6							
800	31	1982	5.7	-9.9	.28	4.3	31	2.046	9.9	2.8	08	5.6	31	1852	-10.9	-19.1	29	8.3	31	2.000	9.7	-5.1	28	9.3	31	1899	-3.6	-9.9	25	6.4	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6							
750	31	2508	3.1	-12.9	.27	5.1	31	2.581	8.9	.9	08	5.0	31	2347	-12.3	-21.5	29	11.4	31	2.534	7.2	-9.8	27	9.5	31	2406	-6.8	-13.2	24	7.1	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6							
700	31	3064	-2	-16.4	.27	6.2	31	3.150	6.6	-9.7	38	4.0	31	2872	-16.2	-23.5	29	14.1	31	3.097	3.2	-13.2	27	9.3	31	2942	-10.5	-16.7	27	8.3	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6							
650	31	3594	-3.2	-20.2	.26	7.2	31	3.755	3.6	-13.8	07	5.1	31	3431	-17.1	-25.6	29	17.2	31	3.693	-6.6	-16.4	27	11.8	31	3509	-13.9	-20.7	26	6.6	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6							
600	31	4262	-7.4	-23.8	.27	7.8	31	4.601	4.4	-18.0	05	2.3	31	4028	-20.4	-28.2	28	18.6	31	4.368	-5.0	-21.3	27	14.0	31	4412	-11.6	-24.1	27	13.0	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6							
550	31	4954	-12.4	-29.0	.26	8.7	31	5.094	-3.2	-22.0	02	2.1	31	4627	-24.1	-32.3	28	21.3	31	5.005	-9.6	-25.4	27	16.2	31	4759	-21.3	-29.4	27	14.7	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6							
500	31	5675	-17.4	-31.7	.24	10.4	31	5.841	-8.0	-26.4	34	3.8	31	5357	-28.4	-36.4	28	24.5	31	5.735	-14.6	-29.7	27	16.8	31	5647	-25.5	-34.0	28	17.4	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6							
450	31	6456	-23.1	-36.0	.23	10.9	31	6.052	-13.3	-31.0	32	5.7	31	6105	-33.3	-37.6	28	27.3	31	6.524	-20.2	-33.7	27	19.4	31	6213	-30.7	-37.6	27	19.3	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6							
400	31	7307	-29.7	-40.7	.26	12.6	31	7.537	-17.1	-36.4	30	7.7	31	6922	-39.0	-43.9	28	29.5	31	7.386	-26.4	-39.9	27	21.8	31	7404	-36.4	-41.1	27	21.2	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6							
350	31	8249	-36.4	-45.4	.26	14.8	31	8.517	-27.2	-42.0	30	10.2	31	7824	-44.6	-46.9	28	31.9	31	8.345	-33.8	-45.8	27	25.0	31	7955	-43.0	-44.5	27	21.9	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6							
300	31	9298	-44.3	-51.4	.26	17.3	31	9.607	-36.9	-48.6	29	17.7	31	8842	-49.4	-46.9	27	35.7	31	9.399	-62.4	-50.8	27	28.9	31	8976	-49.7	-51.4	27	21.6	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6							
250	31	10498	-52.1	-56.1	.26	19.1	31	10.856	-43.6		28	21.0	31	10026	-53.0		27	38.3	31	10.636	-52.0		27	31.8	31	10157	-54.2		27	23.5	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6							
200	31	11923	-57.7		.26	20.3	31	12.322	-54.1		27	22.6	31	11463	-52.5		27	38.3	31	12.023	-59.4		27	31.7	31	11585	-53.6		27	19.4	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6							
175	31	12765	-58.3		.26	22.2	31	13.169	-59.3		28	21.5	31	12327	-52.3		28	31.0	31	12.856	-60.7		27	31.5	31	12447	-52.1		27	18.5	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6							
150	31	13733	-59.1		.26	20.4	31	14.122	-64.8		28	19.2	31	13325	-52.6		28	29.9	31	13.811	-61.7		27	28.6	31	13448	-51.3		28	16.8	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6							
125	31	14867	-62.2		.26	19.2	31	15.219	-70.6		29	15.2	31	14500	-53.4		28	26.0	31	14.932	-65.3		27	26.2	31	14631	-51.8		28	12.5	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6							
100	31	16238	-65.0		.26	14.3	31	16.524	-76.2		29	9.6	31	15934	-53.9		28	21.9	31	16.281	-68.2		27	19.9	31	16074	-52.4		28	10.4	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6							
80	31	17598	-64.9		.26	8.5	31	17.799	-78.9		30	5.5	31	17370	-53.6		29	14.8	31	17617	-69.0		27	13.2	31	17512	-52.1		29	6.1	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6							
70	31	18141	-64.2		.26	3.8	31	18.563	-76.7		33	2.6	31	17222	-53.0		30	9.8	31	18047	-62.3		27	10.6	31	17838	-51.9		31	4.4	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6							
60	31	19360	-61.5		.26	2.8	31	19.661	-71.6		34	1.7	31	19222	-53.0		30	9.8	31	19347	-65.7		28	7.1	31	19077	-51.3		32	2.9	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6							
50	31	20486	-61.5		.26	1.8	31	20.554	-65.7		34	1.7	31	20402	-51.7		31	6.8	31	20464	-62.6		28	4.2	31	20363	-50.4		34	4.4	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6							
40	31	21877	-59.4		.26	5.6	31	21.930	-58.9		06	3.0	31	21851	-51.5		35	5.0	31	21849	-60.1		02	2.0	31	22021	-49.9		06	6.6	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6							
30	31	23687	-57.1		.26	8.6	31	23.762	-53.9		06	5.0	31	23729	-50.1		03	7.3	31	23660	-56.2		06	4.4	31	23907	-49.3		07	10.7	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6							
20	31	24846	-55.2		.26	9.8	31	24.938	-52.1		07	5.5	31	24921	-49.9		05	8.9	31	24816	-54.7		07	3.3	31	25100	-49.0		07	12.3	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6							
10	31	26280	-52.5		.26	9.7	31	26.389	-50.6		09	7.8	31	26286	-48.9		05	10.8	31	26247	-52.6		07	4.7	31	26567	-48.2		07	14.4	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6							
5	31	28151	-49.9		.26	11.1	31	28.272	-47.3		11	5.7	31	28081	-45.7		06	13.1	31	28113	-50.1		08	4.1	31	28476	-47.7		07	17.6	31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6							
1	31	30603	-47.4		.26	8.7	31	30.980	-37.6		10	5.7	31	30344	-43.9		06	12.0	31	30740	-48.2										31	1008	13.5	-1.5	18	1.6	31	1008	13.5	-1.5	18	1.6							
						7	33	30613	-41.1																																								
SWAN ISLAND, W. I. 1013 MB										TAMPA, FLA. 1017 MB										TOPEKA, KANS. 981 MB										TRUK, CAROLINE IS. 1010 MB										TUCSON, ARIZ. 924 MB									
Standard pressure surface (mb.)										Standard pressure surface (mb.)										Standard pressure surface (mb.)										Standard pressure surface (mb.)										Standard pressure surface (mb.)									
No. of observations										No. of observations										No. of observations										No. of observations										No. of observations									
Dynamic height										Dynamic height										Dynamic height										Dynamic height										Dynamic height									
Temperature										Temperature										Temperature										Temperature										Temperature									
Dew Point										Dew Point										Dew Point										Dew Point										Dew Point									
Direction										Direction										Direction										Direction										Direction									
Speed										Speed										Speed										Speed										Speed									
M.p.h.										M.p.h.										M.p.h.										M.p.h.										M.p.h.									
SURFACE	31																																																

Average monthly values

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HAYCROSS, GA. 1012 MB										WINNEMUCCA, NEV. 868 MB										WINSLOW, ARIZ. 850 MB										YAKUTAT, ALASKA 1007 MB										YAP, CAROLINE IS. 1007 MB									
Standard pressure surface (mb)		No. of observations		Dynamic height		Temperature		Dew Point		Resultant Wind		Speed		M.P.A.		No. of observations		Dynamic height		Temperature		Dew Point		Resultant Wind		Speed		M.P.A.		No. of observations		Dynamic height		Temperature		Dew Point		Resultant Wind		Speed		M.P.A.							
No. of observations		Dynamic height		Temperature		Dew Point		Direction		Speed		M.P.A.		No. of observations		Dynamic height		Temperature		Dew Point		Direction		Speed		M.P.A.		No. of observations		Dynamic height		Temperature		Dew Point		Direction		Speed		M.P.A.									
SURFACE	31	44	11.7	10.0	27	1.5	31	1.312	2.2	-4.8	21	1.8	31	1.487	2.7	-2.8	20	1.7	31	12	-5.4	-8.9	09	1.4	31	14	27.8	23.6	06	3.6																			
1000	30	148	14.7	10.7	26	1.5	31	1.312	2.2	-4.8	21	1.8	31	1.487	2.7	-2.8	20	1.7	31	130	-7.6	-7.6	10	2.0	30	82	26.7	23.2	05	5.2																			
950	30	580	14.9	7.6	26	4.7	31	1.312	2.2	-4.8	21	1.8	31	1.487	2.7	-2.8	20	1.7	31	471	-8.9	-8.9	10	3.2	31	532	23.3	21.4	06	7.9																			
900	30	1033	13.3	3.2	26	7.0	31	1.312	2.2	-4.8	21	1.8	31	1.487	2.7	-2.8	20	1.7	31	411	-13.7	-13.7	18	1.8	31	1494	20.4	17.6	06	7.9																			
850	30	1516	11.8	-2.1	26	9.3	31	1.312	2.2	-4.8	21	1.8	31	1.487	2.7	-2.8	20	1.7	31	347	-7.1	-13.7	18	1.8	31	2194	15.0	19.2	05	7.7																			
800	30	2020	9.2	-6.4	26	11.6	31	1.312	2.2	-4.8	21	1.8	31	1.487	2.7	-2.8	20	1.7	31	1817	-9.8	-16.5	22	2.8	31	2014	15.2	8.9	07	4.6																			
750	30	2452	6.5	-8.8	26	14.1	31	1.312	2.2	-4.8	21	1.8	31	1.487	2.7	-2.8	20	1.7	31	2313	-12.7	-20.1	24	2.9	31	2359	12.9	4.3	07	3.7																			
700	30	3114	3.3	-13.2	27	11.3	31	1.312	2.2	-4.8	21	1.8	31	1.487	2.7	-2.8	20	1.7	31	2837	-15.5	-22.5	25	3.6	31	3136	9.8	4	08	3.5																			
650	30	3712	0	-15.6	27	13.4	31	1.312	2.2	-4.8	21	1.8	31	1.487	2.7	-2.8	20	1.7	31	3393	-18.5	-28.6	26	4.4	31	3749	6.7	-4.0	09	4.0																			
600	30	4348	-3.9	-16.6	27	15.0	31	1.312	2.2	-4.8	21	1.8	31	1.487	2.7	-2.8	20	1.7	31	3986	-22.5	-31.9	27	5.1	31	4403	3.3	-9.0	08	5.3																			
550	30	5030	-8.2	-22.2	27	16.8	31	1.312	2.2	-4.8	21	1.8	31	1.487	2.7	-2.8	20	1.7	31	4619	-26.1	-35.9	27	6.8	31	5104	-6.6	-14.8	08	6.1																			
500	30	5763	-13.0	-27.6	27	18.2	31	1.312	2.2	-4.8	21	1.8	31	1.487	2.7	-2.8	20	1.7	31	5300	-31.4	-39.7	27	8.6	31	5860	1.5	19.2	09	7.2																			
450	30	6557	-18.4	-32.4	27	20.4	31	1.312	2.2	-4.8	21	1.8	31	1.487	2.7	-2.8	20	1.7	31	6040	-36.0	-38.5	27	10.6	31	6681	-9.9	-23.0	09	7.2																			
400	30	7425	-23.1	-38.2	27	22.4	30	7.199	-38.2	-40.1	26	17.8	31	7.298	-30.0	-41.7	26	15.7	31	6849	-44.1	-28	12.4	31	7580	-15.3	-29.2	10	6.7																				
350	30	8383	-32.0	-44.2	27	23.7	30	8.126	-40.3	-42.7	26	20.5	31	8.238	-37.1	-43.9	26	18.4	31	7748	-46.5	-28	11.9	31	8578	-22.1	-35.2	10	7.6																				
300	30	9448	-41.4	-50.3	27	26.2	29	9.165	-47.3	-26	23.1	31	9.284	-35.1	-26	20.7	31	7.731	8.759	-50.5	-28	12.0	31	9690	-30.8	-40.8	11	8.3																					
250	30	10661	-50.6	-57.6	27	30.7	28	10.373	-55.9	-27	24.8	31	10.478	-53.6	-26	22.2	31	9.947	-51.4	-29	10.8	31	10957	-41.1	-48.5	12	9.6																						
200	30	12086	-58.6	-64.6	27	37.0	27	11.754	-58.3	-27	24.3	31	11.893	-55.5	-26	21.6	31	11.405	-48.2	-29	9.2	31	12493	-53.4	-61.2	12	10.7																						
175	31	12928	-60.1	-67.1	27	37.1	27	12.613	-57.6	-27	22.0	31	12.732	-56.2	-26	22.6	31	12.089	-48.7	-29	9.1	31	13260	-62.2	-70.7	12	12.7																						
150	31	13882	-61.7	-68.7	27	38.4	30	13.889	-57.1	-27	18.4	30	13.702	-60.0	-26	22.1	31	13.312	-46.1	-30	8.8	31	14224	-67.6	-75.8	11	13.8																						
125	30	15003	-65.2	-72.2	27	31.1	28	14.742	-58.2	-27	15.1	29	14.834	-62.2	-27	19.6	31	14.525	-46.1	-30	7.0	31	15300	-75.1	-83.1	11	14.4																						
100	31	16348	-69.4	-76.4	27	23.3	29	16.145	-59.5	-28	10.3	28	16.199	-63.5	-26	15.9	31	16.012	-45.6	-32	5.4	30	16565	-81.8	-89.8	11	12.9																						
80	31	17675	-70.1	-77.1	27	15.6	25	17.562	-58.7	-29	4.3	26	17.557	-60.9	-27	9.9	31	17.499	-45.7	-33	4.6	30	17822	-78.9	-86.9	10	4.3																						
60	31	18472	-68.5	-75.5	27	11.1	24	18.377	-58.6	-31	2.4	26	18.374	-64.3	-28	6.3	31	18.390	-45.3	-34	3.8	29	18591	-74.4	-82.4	32	.1																						
40	31	19400	-66.4	-73.4	28	7.7	24	19.348	-57.9	-32	1.8	26	19.320	-62.8	-29	2.5	31	19.419	-45.3	-36	2.8	29	19498	-70.4	-78.4	29	3.4																						
20	30	20513	-63.0	-70.0	28	4.6	23	20.496	-56.7	-36	.4	26	20.448	-60.9	-31	1.9	31	20.639	-45.3	-37	2.3	29	20599	-66.5	-74.5	27	2.5																						
10	30	21897	-59.3	-66.3	30	2.8	22	21.915	-55.6	-37	.7	27	21.839	-59.4	-34	.7	6.2	29	22.119	-45.4	-35	4.3	29	22937	-60.6	-68.6	27	2.5																					
30	30	23713	-55.8	-62.8	04	2.9	18	23.742	-54.4	-37	10.7	20	23.640	-57.6	-36	10.8	28	24.042	-45.4	-37	6.0	28	23758	-57.0	-65.0	10	7.2																						
20	30	24879	-54.1	-61.1	05	2.9	17	24.909	-54.2	-37	13.7	20	24.796	-55.6	-36	12.1	27	25.260	-45.3	-37	7.7	28	24916	-55.9	-63.9	09	12.8																						
10	30	26318	-52.0	-59.0	07	3.2	16	26.335	-52.8	-38	14.1	17	26.226	-52.0	-37	12.2	23	26.747	-45.4	-37	7.1	27	26344	-53.2	-61.2	09	20.3																						
10	30	28919	-49.4	-56.4	09	1.4	7	28.174	-52.2	-38			9	28.097	-49.9	-37				-45.4	-38	9.1	23	28917	-49.9	-57.9	09	24.5																					
10	30	30884	-46.4	-53.4	28	5.5				-38										-43.9	-39	15	30916	-46.6	-54.6	09	26.5																						

YUCCA FLAT, NEV.									
878 MB									
SURFACE	31	1.198	3.1	-3.2	19	4			
1000									
950									
900									
850	31	1.465	8.4	-4.1	22	1.6			
800	31	1.961	1.9	-5.2	21	3.4			
750	31	2.491	1.9	-9.2	23	4.6			
700	31	3.042	-1.5	-12.2	24	5.6			
650	31	3.630	-5.5	-17.0	25	6.6			
600	31	4.253	-9.7	-21.1	24	8.2			
550	31	4.920	-13.8	-26.5	24	9.2			
500	31	5.637	-18.6	-30.8	26	11.8			
450	31	6.415	-24.0	-36.9	26	13.7			
400	30	7.264	-30.6	-40.6	26	16.0			
350	30	8.201	-37.9	-46.9	26	17.2			
300	30	9.242	-46.1		27	18.3			
250	30	10.433	-56.0		27	18.8			
200	30	11.850	-57.4		27	21.2			
175	30	12.693	-57.4		27	21.0			
150	30	13.666	-58.2		27	19.1			
125	29	14.814	-60.6		27	15.1			
100	29	16.197	-62.0		27	11.5			
80	29	17.579	-61.9		27	6.4			
70	29	18.408	-60.9		28	2.8			
60	28	19.365	-60.5		32	9			
50	28	20.506	-58.2		07	2.8			
40	28	21.915	-57.0		07	6.9			
30	22	23.745	-55.4		08	11.6			
25	21	24.916	-53.7		08	13.6			
20	18	26.362	-52.4		08	16.0			
15	11	28.262	-50.6		09	17.3			
10	6	30.916	-48.0						

SOLAR RADIATION INTENSITIES

Tabulated in langley's per minute on a surface normal to the direction of the sun.

MARCH 1974

	Sun's zenith distance								
Date	A M.				*	P M			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
ALBUQUERQUE, N. MEX.									
Air mass									
	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
1----	1.01	1.10	1.21	1.34	----	----	----	----	----
2----	----	----	----	(1.28)	----	----	(0.94)	(0.81)	(0.71)
3----	0.86	0.98	1.12	----	(1.46)	1.28	1.10	1.00	----
4----	1.01	1.13	1.26	1.37	1.46	1.31	1.16	1.04	0.94
5----	0.98	1.09	1.21	1.37	1.50	1.36	----	(1.20)	----
6----	0.90	1.00	1.11	1.26	----	----	----	----	----
7----	----	----	----	----	----	1.34	1.17	1.03	0.92
8----	1.04	1.12	1.26	1.36	1.48	1.34	----	----	----
9----	(0.98)	(1.08)	----	----	----	----	----	----	----
10----	0.93	1.03	1.15	1.31	(1.39)	----	----	----	----
11----	----	----	----	1.26	(1.39)	(1.14)	----	----	----
12----	0.81	0.95	1.06	1.27	1.46	1.28	1.10	0.99	0.86
13----	(0.96)	----	(1.16)	(1.34)	(1.46)	----	----	----	----
14----	(0.96)	1.03	1.18	1.32	----	----	----	----	----
15----	0.93	1.03	1.12	1.28	1.41	1.33	1.17	1.03	0.92
16----	0.82	0.94	1.08	1.24	----	----	----	----	----
17----	0.79	0.89	1.03	1.19	----	----	----	----	----
18----	----	0.81	----	1.19	1.37	----	----	----	----
19----	0.93	1.19	(1.14)	----	----	(1.20)	(1.02)	(0.87)	(0.78)
20----	0.80	0.90	1.01	1.15	1.36	1.15	0.99	0.84	0.74
21----	0.77	0.88	1.02	1.19	1.35	----	----	D0.84	D0.77
22----	----	----	----	----	----	----	----	----	----
Aver- ages	0.90	1.00	1.13	1.27	1.42	1.30	1.12	0.99	0.88

MAUNA LOA OBSERVATORY, HAWAII									
Air mass									
	3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36
1-----	1.20	1.27	1.36	1.47	----	----	----	----	----
2-----	0.89	1.01	1.15	1.31	----	----	----	----	----
3-----	----	----	1.36	1.45	1.64	1.52	1.40	1.32	1.21
4-----	1.23	1.30	1.40	1.50	1.59	----	----	----	----
5-----	1.26	1.35	1.44	----	----	----	----	----	----
6-----	1.27	1.31	1.42	1.52	1.59	1.43	1.29	----	----
7-----	1.16	1.23	----	----	1.58	----	----	----	----
8-----	1.16	1.23	----	----	----	----	----	----	----
9-----	1.12	1.20	1.30	1.42	1.54	1.40	1.27	1.18	1.10
10-----	1.14	1.21	1.31	1.43	----	----	----	----	----
11-----	1.15	1.25	1.35	1.46	----	----	----	----	----
12-----	1.20	1.29	1.37	1.49	1.59	----	1.25	1.18	----
13-----	1.25	1.32	1.40	1.45	----	----	----	----	----
14-----	1.25	1.33	1.41	1.51	1.59	----	----	----	----
15-----	1.22	1.30	1.39	1.50	1.60	1.35	1.26	1.18	1.08
16-----	1.21	1.29	1.38	1.49	1.59	1.43	1.31	1.21	1.11
17-----	1.22	1.30	1.39	1.50	1.63	1.48	1.36	1.27	1.20
18-----	1.23	1.31	1.40	1.51	1.62	1.49	1.37	1.28	1.21
Aver- ages	1.19	1.26	1.36	1.47	1.60	1.44	1.32	1.24	1.16

OMAHA, NEBR.									
Air mass									
	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
NO DATA RECEIVED									

	Sun's zenith distance								
Date	A M.				*	P M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
TULSON, ARIZ.									
	Air mass								
	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
1-----	0.93	1.04	1.14	1.35	----	----	----	----	----
2-----	----	----	1.06	----	----	----	1.02	----	----
3-----	H 0.56	H 0.77	H 1.06	----	H 1.15	H 0.97	H 0.85	H 0.71	----
4-----	0.91	1.03	1.17	1.32	1.49	1.29	1.10	0.98	0.85
5-----	0.86	0.98	1.11	1.30	----	----	----	----	----
6-----	0.78	0.84	1.01	1.21	1.36	1.19	0.97	0.86	0.75
7-----	0.76	0.82	1.05	----	----	----	----	----	----
8-----	----	----	----	----	1.48	1.34	1.11	1.06	----
9-----	0.95	1.05	1.17	1.33	1.46	1.30	1.16	1.04	0.94
10-----	0.94	1.05	1.14	1.29	1.46	----	----	----	----
11-----	----	----	----	----	1.14	----	----	----	----
12-----	0.78	0.92	1.06	1.23	1.39	----	----	----	----
13-----	0.82	0.93	1.05	1.22	----	1.01	0.86	0.75	----
14-----	0.83	0.93	----	1.27	1.48	1.26	1.06	0.93	0.80
15-----	0.85	0.95	1.08	1.24	1.38	1.20	0.99	0.86	0.77
16-----	0.70	0.83	0.97	1.14	1.36	1.18	1.00	0.87	0.76
17-----	0.84	0.94	1.06	1.26	----	----	1.05	----	----
18-----	----	----	1.22	----	----	----	----	----	----
19-----	0.84	----	----	----	1.19	1.02	----	0.75	----
20-----	0.77	0.93	1.15	1.38	1.25	1.06	0.95	0.84	----
21-----	0.97	1.09	----	----	----	----	----	----	----
22-----	0.77	0.90	1.03	1.20	1.38	1.15	1.02	0.87	0.76
23-----	0.82	0.95	1.07	1.25	1.39	1.22	1.01	0.86	0.82
24-----	0.84	0.94	1.06	1.22	1.44	1.26	1.07	0.94	0.82
25-----	0.76	0.97	1.15	1.32	1.21	1.06	0.91	0.81	----
26-----	0.59	0.76	0.97	1.15	1.32	1.21	1.06	0.91	0.81
27-----	0.90	0.99	1.11	1.24	1.44	1.26	1.12	0.89	----
28-----	0.81	0.97	1.10	1.28	1.45	1.25	----	----	----
Aver- ages	0.83	0.91	1.05	1.23	1.42	1.23	1.04	0.93	0.80

MADISON, WIS									
Air mass									
	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
5-----	S 0.69	S 0.78	S 0.95	S 1.15	S 1.38	----	0.92	0.79	0.69
6-----	----	S 0.73	S 0.87	S 1.09	----	----	----	----	----
7-----	0.83	0.96	1.08	1.24	1.34	----	----	----	----
21-----	0.89	0.98	1.13	1.25	1.37	----	----	----	----
24-----	S 0.28	S 0.29	S 0.32	----	----	----	----	----	----
Aver- ages	.67	.74	.87	1.18	1.36	----	.92	.79	.69

NET RADIATION

Net radiation in langbeys per day (8 a.m. to 8 a.m.) at Palmer, Alaska.

MARCH 1974											
Date	1	2	3	4	5	6	7	8	9	10	11
Langbeys	100	120	50	90	14	43	92	43	20	15	13
Date	12	13	14	15	16	17	18	19	20	21	22
Langbeys	13	38	47	30	57	44	48	56	33	25	79
Date	23	24	25	26	27	28	29	30	31	Avg.	
Langbeys	58	45	57	103	19	126	66	162	26		

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average ($\pm 3900 \text{ \AA}$) at Ames, Iowa

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
date																																
angles																																

NO DATA RECEIVED

TOTAL OZONE DATA

These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code $\Delta S \Delta Q \Delta$ defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units Milli-atmo-cms.

Station	Day of month																																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean O ₃	

NO DATA RECEIVED

REFERENCE NOTES

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES:

Dates in the table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations.)

- + And also on an earlier date or dates.
- D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch of water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA - METRIC UNITS: Data from airport unless otherwise specified.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile data can be evaluated.

- B Number of days maximum 21.1°C. or above for Alaskan Stations.
- Y Peak Gust.
- + And also on an earlier date or dates.
- U Indicates Urban site.
- R Indicates Rural site.
- Ø Station pressures apply to elevations shown in the "Elevations" table of the annual issue of this publication.

Conversion formulae to English Units are as follows:

- 1 foot = 0.3048 meters
- °F. = $\frac{9}{5} \times ^\circ\text{C} + 32$
- 1 inch = 25.4 millimeters
- 1 mile per hour = 0.447 meters per second

HEATING DEGREE DAYS: Data from airport unless otherwise specified.

- U Indicates Urban site.
- R Indicates Rural site.

COOLING DEGREE DAYS: Data from airport unless otherwise specified.

- U Indicates Urban site.
- R Indicates Rural site.

STORM SUMMARY:

- ° Includes crop damage.
- C Crop damage.
- * No occurrence of storms or unusual weather phenomena reported.
- ⊙ Includes heavy sleet storm.
- # Freezing drizzle and freezing rain, commonly known as glaze.
- Ø For breakdown of "All Others," and for detailed listing of other storms, see the Environmental Data Service, NOAA, monthly publication STORM DATA.
- ‡ No Storm Data Report received for this State.
- <> Report Incomplete.
- † Storm damages are placed in categories varying from 1 to 9 as follows:
 - 1 Less than \$50
 - 2 \$50 to \$500
 - 3 \$500 to \$5,000
 - 4 \$5,000 to \$50,000
 - 5 \$50,000 to \$500,000
 - 6 \$500,000 to \$5 Million
 - 7 \$5 Million to \$50 Million
 - 8 \$50 Million to \$500 Million
 - 9 \$500 Million to \$5 Billion.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS:

- 1/ Flooding continued at the end of the month.
- NA Not available.

FLOOD STAGE DATA:

- # Highest Stage Observed
- 1/ Continued at end of month
- Highest Stage of Record
- E Estimated
- P Provisional (Flood Stage)
- U Unknown

RAWINSONDE DATA (Average Monthly Values):

All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygrometers. These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

- * Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.
- + Observations for these stations are scheduled at 0000 G.C.T.
- † Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

REFERENCE NOTES - Continued

SOLAR RADIATION INTENSITIES: Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

()	Clouds Present	DM	Moderate Dust	HM	Moderate Haze	KS	Slight Smoke
*	Values corresponding to true solar noon	DS	Slight Dust	HS	Slight Haze	M	Moderate Haze-indeter-
BD	Blowing Dust	F	Fog	I	Intense Haze-indeterminable		minable
BN	Blowing Sand	GF	Ground Fog	K	Smoke	N	Sand
D	Dust	H	Haze	KI	Intense Smoke	S	Slight Haze-indeter-
DI	Intense Dust	HI	Intense Haze	KM	Moderate Smoke		minable

NET RADIATION: The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the NOAA, National Weather Service.

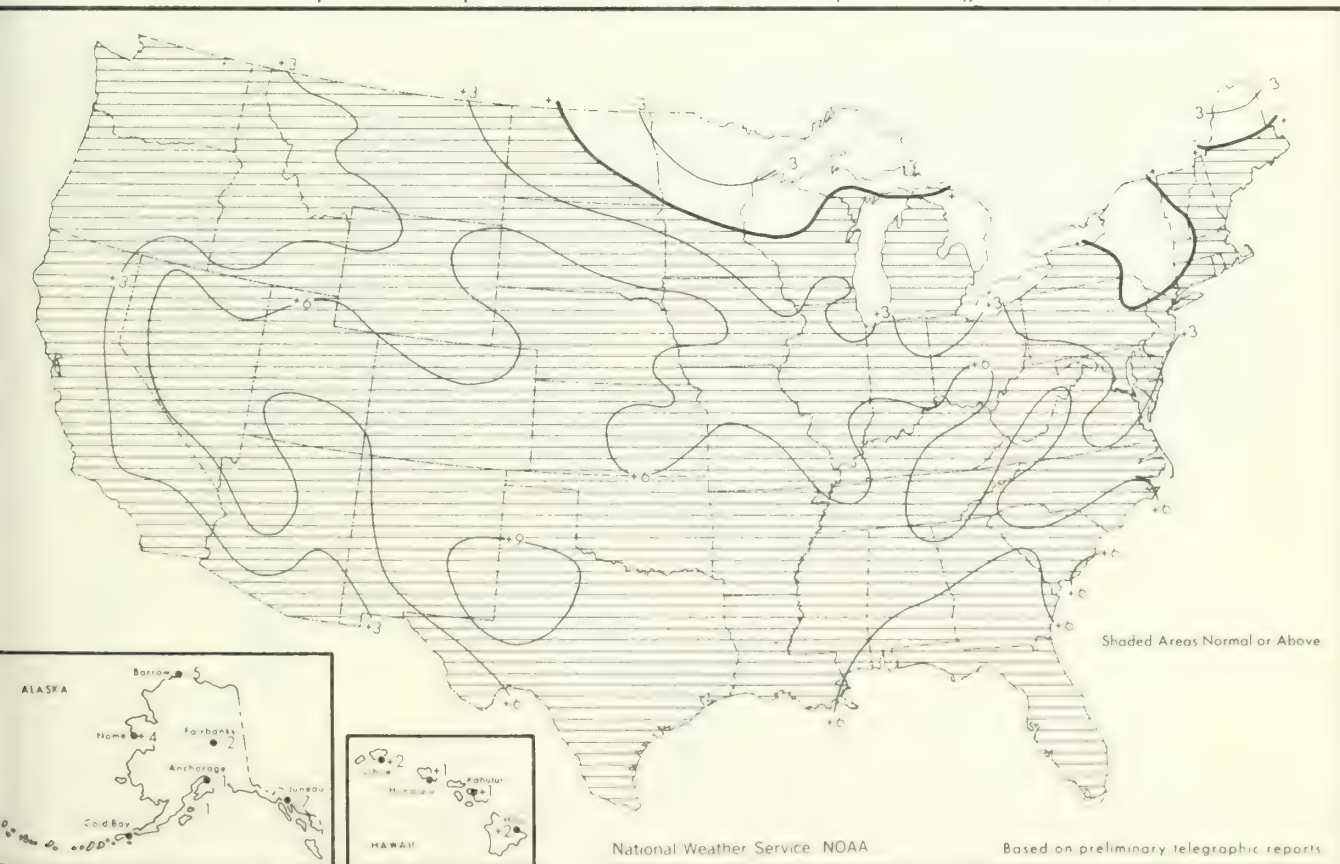
SOLAR ULTRA-VIOLET RADIATION DATA: These data are from an U-V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. This instrument has not been checked by the NOAA, National Weather Service.

TOTAL OZONE DATA: The spectrophotometer measures the total amount of ozone in the atmosphere, i.e., the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded $\varnothing \varnothing \varnothing$) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e.g., 350 milli-atmo-cm ozone implies an ozone layer 0.350 centimeter thick. The code λs designates the type of measurement made.

Chart 1. A. Normal Daily Average Temperature (°F. 1941-70), March.



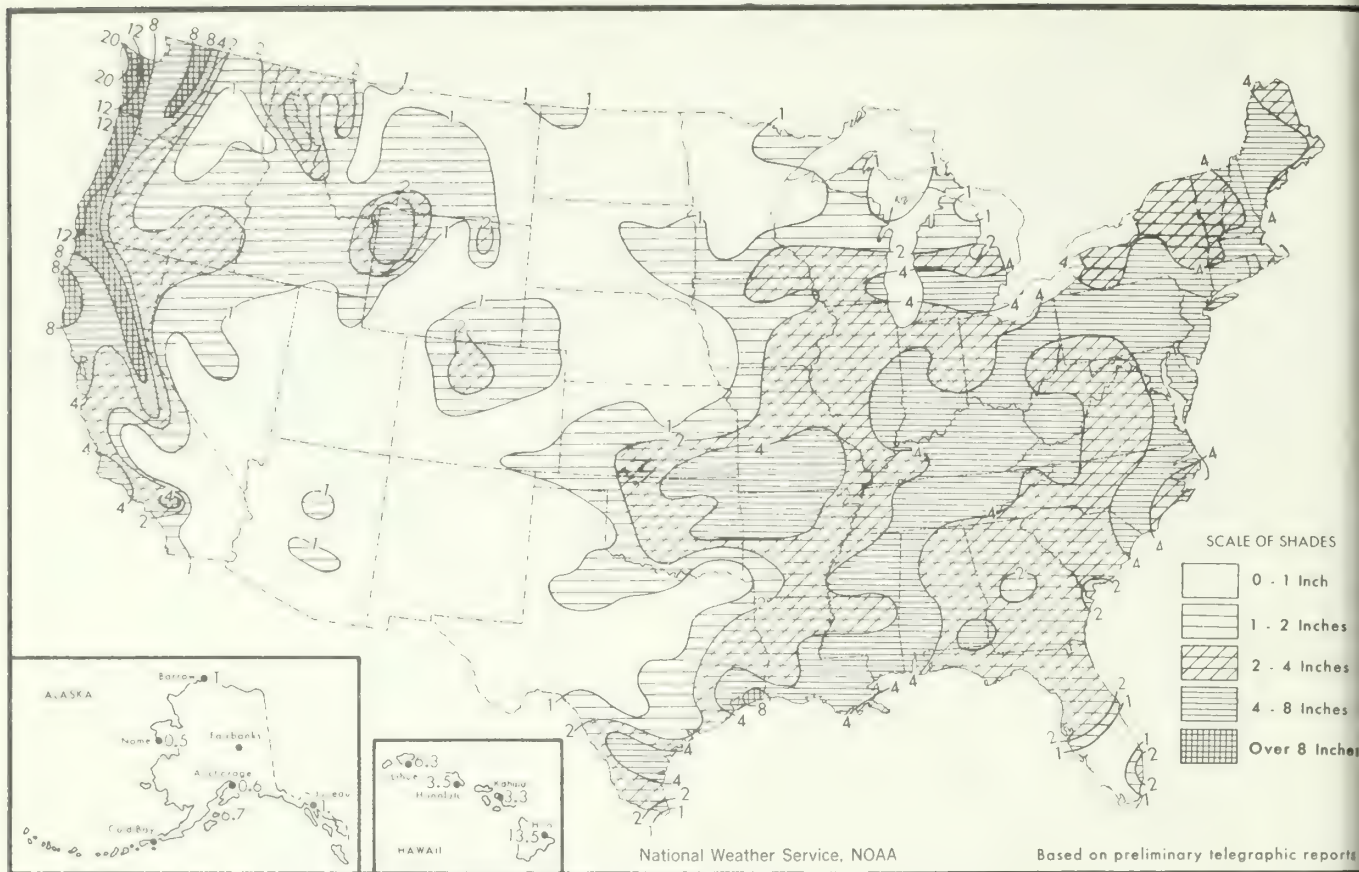
B. Temperature Departure from 30 - Year Mean (°F 1941-70), March 1974



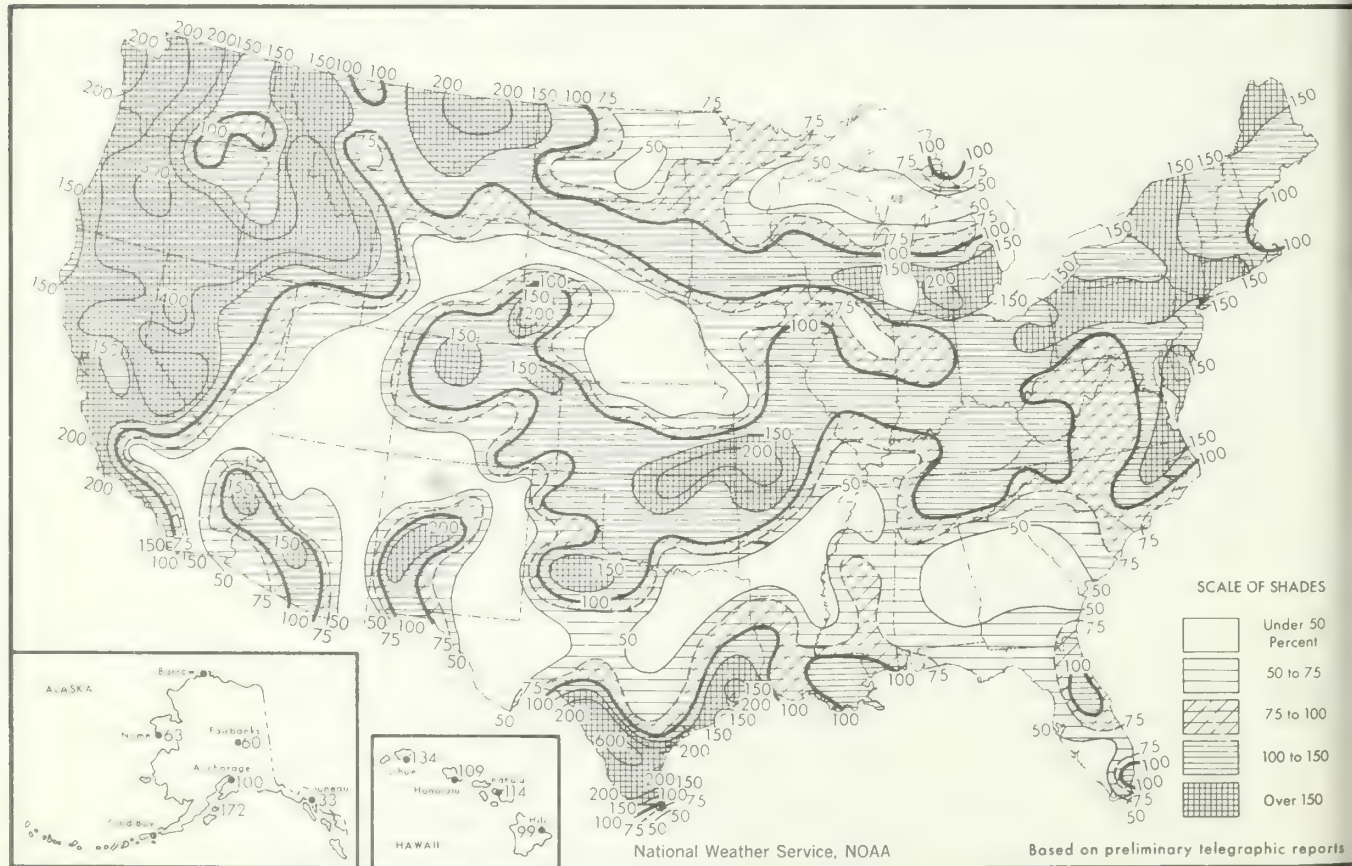
National Weather Service NOAA

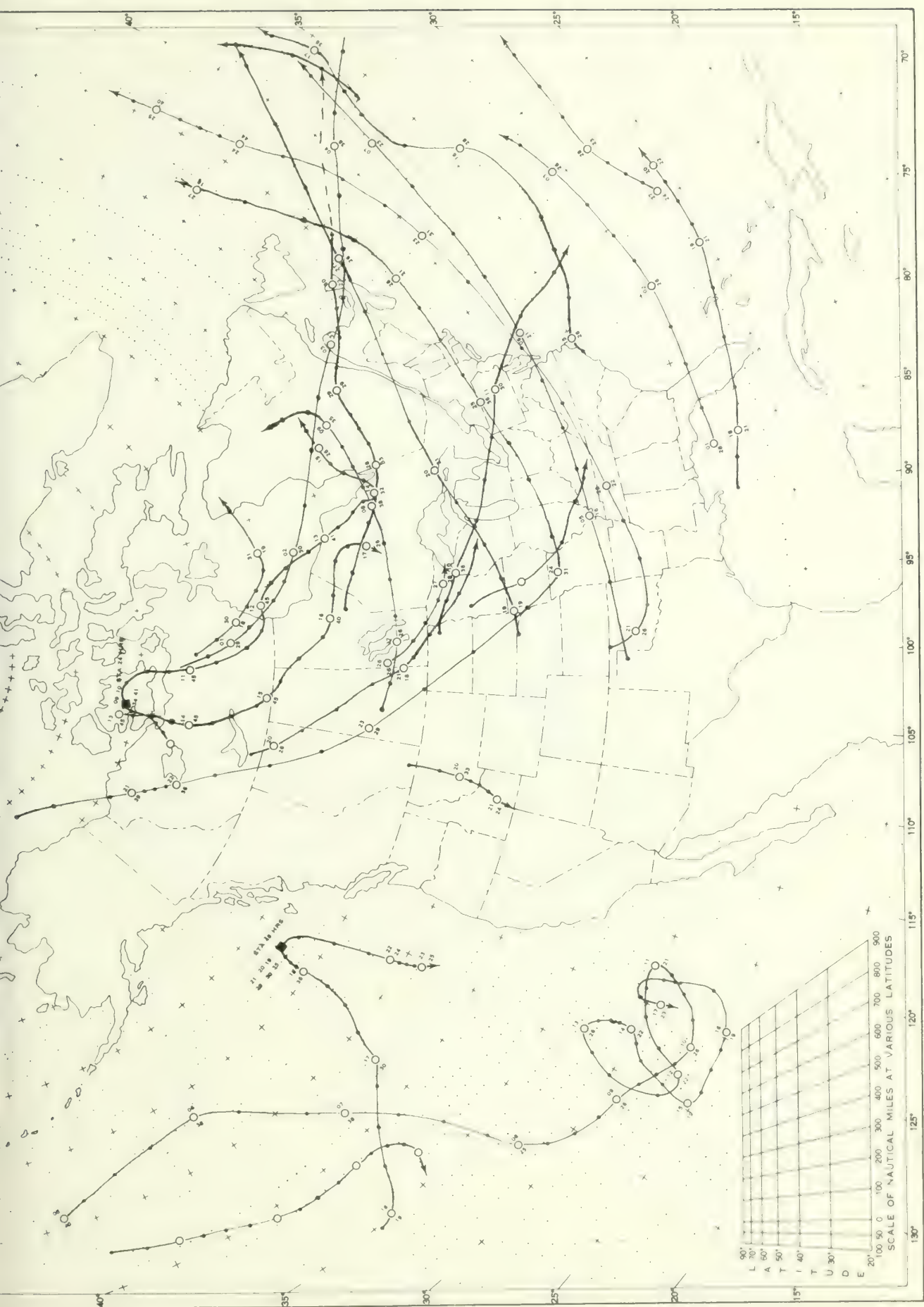
Based on preliminary telegraphic reports

Chart II. A. Total Precipitation (Inches), March 1974



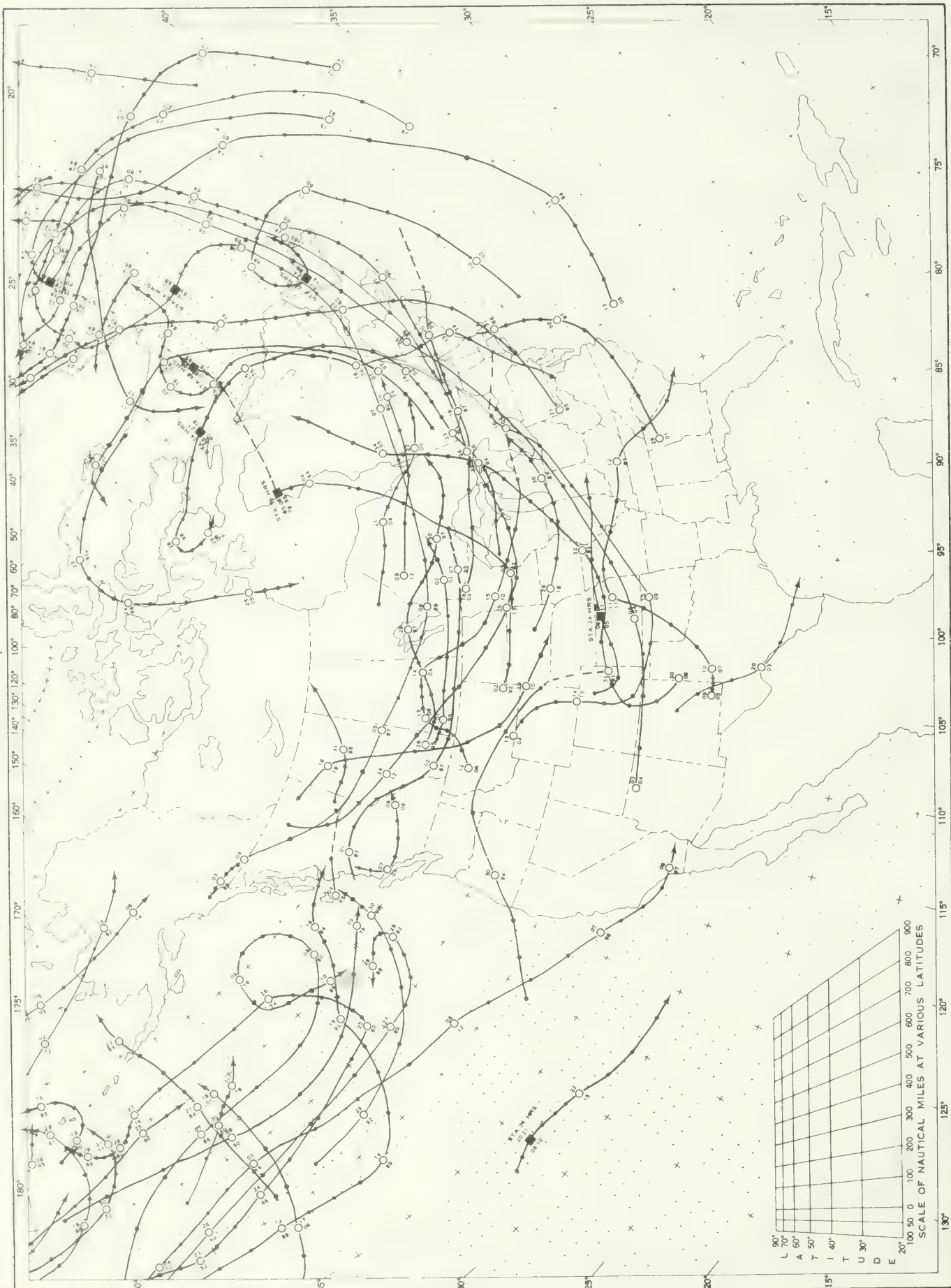
B. Percentage of Normal Precipitation, March 1974





Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IV. Tracks of Centers of Cyclones at Sea Level, March 1974



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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Environmental Data Service



APRIL
1974

Volume 25

No. 4

Chapel Hill, N. C.

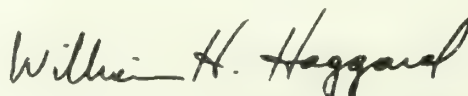
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NOTE: Late reports and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

SUBSCRIPTION PRICE: \$5.50 a year including annual summary; \$1.00 additional for foreign mailing; 40¢ single copy; \$1.00 annual summary. Make checks payable to Department of Commerce, NOAA; send payments and orders to: National Climatic Center, Federal Building, Asheville, NC 28801. Attn: Publications.

I certify that this is an official publication of the National Oceanic and Atmospheric Administration, and is compiled from records on file at the National Climatic Center, Asheville, NC 28801


 Director, National Climatic Center

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

APRIL 1974

GENERAL SUMMARY OF WEATHER CONDITIONS

Dr. Richard E. Felch, Climatologist

LIGHTS: A typical April with highly variable temperatures and precipitation, and with a heavy portion of violent weather. For the month, temperatures averaged normal and precipitation was generally better than normal. The Southeast, portions of several western States, and the upper reaches of the Plains were the only areas where normal. Precipitation was highly variable in both amount and distribution. For example, Scottsbluff, Nebr., received 0.35 inches which is 25 percent of the normal; 75 miles to the north 3.48 inches, which is more than twice the normal. Similar situations occurred in several other areas.

PRECIPITATION: Highly variable was the word for the month. Totals varied from nothing in southern Arizona to over 10 inches at Indian, Miss. Generally amounts were below normal over most of the Country, with only above normal totals associated with thunderstorms and violent weather during short periods of time. The first week will go down in the annals of the most devastating in modern times. Nearly 100 tornadoes roared through the States in an area extending from Georgia to Canada. The storms claimed over 320 lives, destroyed millions of dollars of property, and left thousands of families homeless. It was the worst outbreak associated with a particular storm in 49 years. Heavy precipitation accompanied the storms. A series of thunderstorms and heavy spring rains added to the problems in cleaning up after the tornadoes during the second week, particularly in the Southeast. From 2 to 8 inches of rain fell over Louisiana, Mississippi, and Alabama. Near midmonth, winter conditions returned to many areas. A-

bout 12 inches of snow fell at Salt Lake City, Utah, and at Albany, N. Y. Easter weekend was generally clear, but cool, over most of the Nation.

Blustery weather continued into the third week as tornadoes, thunderstorms, and gusty winds lashed portions of Texas, Nebraska, Oklahoma, Illinois, and Wisconsin. Precipitation was generally light with most significant precipitation confined to the central States. Over 2 inches fell over a band stretching from northern Texas to northern Iowa.

The month ended with generally light precipitation, but there was considerable local flooding as thundershower activity dominated. Rain totaled 4 to 7 inches in an area from Arkansas into western Tennessee and northern Mississippi.

TEMPERATURE: Temperatures were near normal over the month, but were quite variable during the month. The month began and ended on the warm side, but the middle two weeks were cool and blustery.

During the first week of April, temperatures were generally warmer than normal over the eastern half of the Country, but cooler than usual in the West. However, the situation changed about the 10th as a late winter storm brought cooler than normal weather to most of the country. Record low temperatures were experienced from Florida to the Great Lakes. The unusually cool temperatures continued in the Southeast for most of the month.

Temperatures warmed markedly over the western half of the Country during the last half of April as temperatures averaged from 3° to 6° above normal.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

APRIL 1974

STATE	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest °F	Date	Station	Lowest °F	Date	Station	Greatest In.	Station	Least In.
Alabama	Anniston 1 NW	91	1	Florence	26	9	Livingston 2 SW	11.40	Muscle Shoals FAA AP	2.70
Alaska	Barrow Lower	48	29	Happy Valley Camp	-49	12	Mac Ledd Harbor	19.76	2 Stations	.00
Arizona	Butte 1 WSO	102	29	Sanrise Mountain	0	4	Blue	1.30	76 Stations	.00
Arkansas	2 Stations	91	1	Gilbert	21	9	Crystal Valley	10.97	Melbourne 5 WNW	2.87
California	Mecca Fire Station	102	30	White Mountain 2	-19	24	Grasscomb 3 NW	8.68	33 Stations	.00
Colorado	2 Stations	92	29	2 Stations	-19	5	Berthoud Pass	6.43	3 Stations	.1
Connecticut	Bethel 1 WSO 14	91	29	Norfolk 2 SW	19	10	Bulls Bridge Dam	4.71	Falls Village	2.62
Delaware	2 Stations	91	29	Georgetown 5 SW	23	7	Wilmington Porter Reservoir	3.48	Georgetown 5 SW	1.52
Florida	La Belle	98	2	Fountain 3 SSE	30	10	Caryville	6.23	St. Petersburg	.01
Georgia	2 Stations	92	3	Blairsville Exp. Station	23	10	Waleska	7.80	Savannah Beach	1.11
Idaho	Colony AP 224	98	14	Haleakala Summit 338.4	31	22	Mount Waialeale 1047	68.10	2 Stations	.04
Illinois	Glenns Ferry	89	29	Island Park Dam	5	2	Avery R. S. 2	4.60	3 Stations	.1
Indiana	Farmer City	87	26	3 Stations	21	9	Griggsville	6.98	Piper City 3 SE	1.66
Indiana	Versailles	87	29	Richmond Wtr. Wks. 2 NNE	16	9	Rockville	6.20	Rensselaer	1.42
Iowa	3 Stations	86	27	Estherville 2 N	18	9	Pella	7.82	Centerville 4 SSW	.97
Kansas	Coldwater	92	27	Syracuse 2 W	17	16	Hutchinson Exp. Field	8.30	Johnson 11 ESE	.21
Kentucky	3 Stations	90	29	Cumberland	21	19	Dawson Springs	6.85	Midway	2.09
Louisiana	9 Stations	91	1	Ashland 2 S	32	6	Winnfield 2 W	14.13	Mamou 4 S	1.50
Massachusetts	Saco	87	29	Clayton Lake 2	0	9	Waterville Pump Sta.	6.05	Presque Isle	3.02
Massachusetts	3 Stations	93	30	Billerica 2 NW	17	10	Hagerstown	4.46	Waldorf Police Barracks	1.15
Massachusetts	Chester 2	90	29	Stockbridge	14	10	Blue Hill WSO	5.14	Groton	2.25
Michigan	2 Stations	85	28	Herman	-10	8	Hart	5.71	Saint Charles	1.01
Minnesota	Austin 3 S	88	26	Gunflint Lake 10 NW	-3	8	Isle 8 N	1.80	Artichoke Lake	.84
Mississippi	3 Stations	90	1	2 Stations	27	6	Mize	17.32	Ridley	2.88
Missouri	2 Stations	89	28	2 Stations	18	9	Willow Springs Rdo KUKU	8.65	Unionville	.90
Montana	Hardin	91	26	Cooke City	-1	3	Gallatin Gateway 9 SSW	6.21	Wise River 3 WNW	.1
Montana	Benkelman	92	27	Harrisburg 10 NW	9	4	Emerald	5.16	Mitchell 5 E	.21
Montana	Sunrise Manor Las Vegas	93	17	Mountain City R. S.	6	4	Mount Rose Bowl	6.62	8 Stations	.00
Nebraska	Concord WSO AP	86	29	Pinkham Notch	-6	11	Mount Washington	14.62	Surry Mountain Lake	2.20
Nebraska	4 Stations	92	30	2 Stations	23	11	Long Valley	5.67	Atlantic City	1.75
Nebraska	Ida	98	27	Eagle Nest	-6	3	Socorro	1.38	28 Stations	.00
Nebraska	Watkinsville 2 NW	94	29	Jamestown 4 NE	7	11	Sherman	5.47	Watertown FAA AP	.83
Nebraska	New Bern 3 NW	94	30	Grandfather Mountain	17	6	Coweeta Exp. Station	10.78	Sanford 8 NE	1.22
North Dakota	2 Stations	84	26	Herman 2 N	-10	7	Selfridge 2 NE	6.94	Ambrose 3 N	.52
Ohio	2 Stations	89	2	Warren 3 S	11	10	Geneva 3 S	6.10	Ottawa NWR	1.23
Oregon	Ardmore	87	1	Kenton	22	16	Holdenville	10.35	Kenton	.1
Oregon	Ilwaco	85	29	Crater Lake NP HQ	9	14	Spout Spgs Ski Lodge	10.89	Ironside 2 W	1.59
Pennsylvania	2 Stations	92	30	2 Stations	6	10	Bradford Central FS	5.92	Jersey Shore	.00
Puerto Rico-V.I.	2 Stations	93	22	2 Stations	30	30	Hacienda Constanza, P. R.	9.04	Santa Rita, P. R.	1.00
Rhode Island	Providence WSO AP	90	29	2 Stations	21	10	Woonsocket	4.53	Providence WSO AP	2.86
South Carolina	11	91	30	5 Stations	28	10	Hogback Mountain	7.60	Georgetown 2 E	.51
South Dakota	Oral	88	25	2 Stations	12	1	Kadoka	4.87	Mount Coolidge	.50
Tennessee	Portland Sewage Plant	89	4	Mountain City 2	19	7	Dresden	9.34	McMinnville	2.61
Texas	3 Stations	102	2	Walcott	23	5	Atlanta 4 WSW	10.34	7 Stations	.00
Utah	La Verkin	88	24	Blowhard Mountain Radar	2	13	Vita	11.81	2 Stations	.00
Vermont	Vernon	85	30	Mount Mansfield	1	11	Canaan	6.69	Cornwall	2.11
Virginia	Blacksburg 3 SE	94	29	Blacksburg 3 SE	18	11	Meadows of Dan 5 SW	7.12	Woodstock	.73
Washington	Kennewick	78	30	2 Stations	18	14	Rainier Paradise R. S.	15.45	Quincy 1 S	.33
West Virginia	Martinsburg FAA AP	93	29	3 Stations	17	20	2 Stations	4.56	Renick 2	.84
Wisconsin	Crivitz High Falls	90	29	2 Stations	0	8	Racine 5 W	5.26	Foxboro	.66
Wyoming	Torrington Exp. Farm	89	21	2 Stations	-1	14	Gas Hills 4 E	6.30	Dubois	.1

METRIC UNITS

2

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature						Precipitation				Wind				No. of days (sunrise to sunset)	No. of days (sunrise to sunset)	Sky cover, tenths	Possible sunshine																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Lowest	Date	No. of days Max 32.2 °C or above	Average dew point	Average relative humidity	Total	Departure from normal	25 mm or more	No. of days With thunderstorms					Total	Maximum depth on ground	Snow, ice pellets	Resultant speed	Resultant direction	Speed	Direction	Fastest mile (1.6 kilometers)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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CLIMATOLOGICAL DATA

METRIC UNITS

11-1-74

State and Station	Pressure		Temperature				Precipitation				Wind		No. of days (sunrise to sunset)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
	Elevation (ground)	Station	Sea level	Average maximum		Average minimum		Average		Departure from normal		Highest	Date	Lowest	Date	Max 32° or above	Min. 0° or lower	Average dew point	Average relative humidity	Total		mm	With thunderstorms	No. of days	Snow, ice pellets		Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
				C	F	C	F	C	F	C	F									C	F				mm	in											mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm

CLIMATOLOGICAL DATA

METRIC UNITS

1971 1972

State and Station	Elevation (ground)	Pressure		Temperature						Precipitation						Wind				No. of days (sunrise to sunset)	Sky cover (tenths (sunrise to sunset))									
		Station Q	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Lowest	Date	No. of days Max 32.2 °C or above Min 0 °C or lower	Average dew point	Average relative humidity	Total	mm	Departure from normal	Greatest in 24 hours	25 mm or more	No. of days With thunderstorms			Total	mm	Maximum depth on ground	Snow, ice pellets	Resultant speed	Resultant direction	Speed (1.6 kilometers)	Direction	Date

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation ground	Pressure		Temperature						Precipitation						Wind				No. of days (sunrise to sunset)		Possible sunshine (sunrise to sunset)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
		Station	Sea level	Average max min		Average	Departure from normal	Highest		Date	Lowest	Date	No. of days		Average dew point	Average relative humidity	Total	mm	Departure from normal				Greatest in 24 hours	25 mm. or more	With thunderstorms	Total	mm	Maximum depth on ground	Snow, ice pellets	Resultant speed	Resultant direction	Speed (1.6 kilometers)	Direction	Date																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
				Max 32.2 °C or above	Min. 0 °C or lower			Max	Min				mm	mm						mm	mm														mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm

HEATING DEGREE DAYS

(Base 65°F.)

APRIL 1974

State and station	Current season		Normals July through this month	State and station	Current season		Normals July through this month	State and station	Current season		Normals July through this month	State and station	Current season		Normals July through this month
	This month	Period July through this month			This month	Period July through this month			This month	Period July through this month			This month	Period July through this month	
ALABAMA				ALABAMA				ALABAMA				ALABAMA			
BIRMINGHAM	2149	2149	2149	BIRMINGHAM	2149	2149	2149	BIRMINGHAM	2149	2149	2149	BIRMINGHAM	2149	2149	2149
HUNTINGVILLE	1037	1037	1037	HUNTINGVILLE	1037	1037	1037	HUNTINGVILLE	1037	1037	1037	HUNTINGVILLE	1037	1037	1037
MOBILE	1643	1643	1643	MOBILE	1643	1643	1643	MOBILE	1643	1643	1643	MOBILE	1643	1643	1643
MONTGOMERY	2261	2261	2261	MONTGOMERY	2261	2261	2261	MONTGOMERY	2261	2261	2261	MONTGOMERY	2261	2261	2261
ALASKA				ALASKA				ALASKA				ALASKA			
ANCHORAGE	10418	10418	10418	ANCHORAGE	10418	10418	10418	ANCHORAGE	10418	10418	10418	ANCHORAGE	10418	10418	10418
FAIRBANKS	6251	6251	6251	FAIRBANKS	6251	6251	6251	FAIRBANKS	6251	6251	6251	FAIRBANKS	6251	6251	6251
HELIKOP	17582	17582	17582	HELIKOP	17582	17582	17582	HELIKOP	17582	17582	17582	HELIKOP	17582	17582	17582
SIKOTIAV	17706	17706	17706	SIKOTIAV	17706	17706	17706	SIKOTIAV	17706	17706	17706	SIKOTIAV	17706	17706	17706
BETHEL	11971	11971	11971	BETHEL	11971	11971	11971	BETHEL	11971	11971	11971	BETHEL	11971	11971	11971
BETHEL	14933	14933	14933	BETHEL	14933	14933	14933	BETHEL	14933	14933	14933	BETHEL	14933	14933	14933
BIG DELTA	13751	13751	13751	BIG DELTA	13751	13751	13751	BIG DELTA	13751	13751	13751	BIG DELTA	13751	13751	13751
ELIOT	8713	8713	8713	ELIOT	8713	8713	8713	ELIOT	8713	8713	8713	ELIOT	8713	8713	8713
FAIRBANKS	13446	13446	13446	FAIRBANKS	13446	13446	13446	FAIRBANKS	13446	13446	13446	FAIRBANKS	13446	13446	13446
HELIKOP	13335	13335	13335	HELIKOP	13335	13335	13335	HELIKOP	13335	13335	13335	HELIKOP	13335	13335	13335
HOMER	9657	9657	9657	HOMER	9657	9657	9657	HOMER	9657	9657	9657	HOMER	9657	9657	9657
JUNEAU	8943	8943	8943	JUNEAU	8943	8943	8943	JUNEAU	8943	8943	8943	JUNEAU	8943	8943	8943
KENT SALMON	10459	10459	10459	KENT SALMON	10459	10459	10459	KENT SALMON	10459	10459	10459	KENT SALMON	10459	10459	10459
KODIAK	7725	7725	7725	KODIAK	7725	7725	7725	KODIAK	7725	7725	7725	KODIAK	7725	7725	7725
KOTZEBUE	14796	14796	14796	KOTZEBUE	14796	14796	14796	KOTZEBUE	14796	14796	14796	KOTZEBUE	14796	14796	14796
MEAD	14081	14081	14081	MEAD	14081	14081	14081	MEAD	14081	14081	14081	MEAD	14081	14081	14081
NOVA	13809	13809	13809	NOVA	13809	13809	13809	NOVA	13809	13809	13809	NOVA	13809	13809	13809
ST. PAUL ISLAND	9644	9644	9644	ST. PAUL ISLAND	9644	9644	9644	ST. PAUL ISLAND	9644	9644	9644	ST. PAUL ISLAND	9644	9644	9644
Summit	13302	13302	13302	Summit	13302	13302	13302	Summit	13302	13302	13302	Summit	13302	13302	13302
TALKEETNA	11449	11449	11449	TALKEETNA	11449	11449	11449	TALKEETNA	11449	11449	11449	TALKEETNA	11449	11449	11449
UNALASKA				UNALASKA				UNALASKA				UNALASKA			
YAKUTAT	8401	8401	8401	YAKUTAT	8401	8401	8401	YAKUTAT	8401	8401	8401	YAKUTAT	8401	8401	8401
ARIZONA				ARIZONA				ARIZONA				ARIZONA			
FLAGSTAFF	6081	6081	6081	FLAGSTAFF	6081	6081	6081	FLAGSTAFF	6081	6081	6081	FLAGSTAFF	6081	6081	6081
PHOENIX	1093	1093	1093	PHOENIX	1093	1093	1093	PHOENIX	1093	1093	1093	PHOENIX	1093	1093	1093
TUCSON	1652	1652	1652	TUCSON	1652	1652	1652	TUCSON	1652	1652	1652	TUCSON	1652	1652	1652
WINSLOW	4595	4595	4595	WINSLOW	4595	4595	4595	WINSLOW	4595	4595	4595	WINSLOW	4595	4595	4595
YUMA	1005	1005	1005	YUMA	1005	1005	1005	YUMA	1005	1005	1005	YUMA	1005	1005	1005
ARKANSAS				ARKANSAS				ARKANSAS				ARKANSAS			
FORT SMITH	3042	3042	3042	FORT SMITH	3042	3042	3042	FORT SMITH	3042	3042	3042	FORT SMITH	3042	3042	3042
LITTLE ROCK	2645	2645	2645	LITTLE ROCK	2645	2645	2645	LITTLE ROCK	2645	2645	2645	LITTLE ROCK	2645	2645	2645
CALIFORNIA				CALIFORNIA				CALIFORNIA				CALIFORNIA			
BAKERSFIELD	1756	1756	1756	BAKERSFIELD	1756	1756	1756	BAKERSFIELD	1756	1756	1756	BAKERSFIELD	1756	1756	1756
BIRMINGHAM	4265	4265	4265	BIRMINGHAM	4265	4265	4265	BIRMINGHAM	4265	4265	4265	BIRMINGHAM	4265	4265	4265
BLUE CANYON	5082	5082	5082	BLUE CANYON	5082	5082	5082	BLUE CANYON	5082	5082	5082	BLUE CANYON	5082	5082	5082
FRESNO	2378	2378	2378	FRESNO	2378	2378	2378	FRESNO	2378	2378	2378	FRESNO	2378	2378	2378
LONG BEACH	1512	1512	1512	LONG BEACH	1512	1512	1512	LONG BEACH	1512	1512	1512	LONG BEACH	1512	1512	1512
LOS ANGELES	1474	1474	1474	LOS ANGELES	1474	1474	1474	LOS ANGELES	1474	1474	1474	LOS ANGELES	1474	1474	1474
LOS ANGELES U	1024	1024	1024	LOS ANGELES U	1024	1024	1024	LOS ANGELES U	1024	1024	1024	LOS ANGELES U	1024	1024	1024
MT. SHASTA R	4341	4341	4341	MT. SHASTA R	4341	4341	4341	MT. SHASTA R	4341	4341	4341	MT. SHASTA R	4341	4341	4341
OAKLAND	2856	2856	2856	OAKLAND	2856	2856	2856	OAKLAND	2856	2856	2856	OAKLAND	2856	2856	2856
RED BLUFF	2686	2686	2686	RED BLUFF	2686	2686	2686	RED BLUFF	2686	2686	2686	RED BLUFF	2686	2686	2686
SACRAMENTO	2624	2624	2624	SACRAMENTO	2624	2624	2624	SACRAMENTO	2624	2624	2624	SACRAMENTO	2624	2624	2624
SAN DIEGO	4284	4284	4284	SAN DIEGO	4284	4284	4284	SAN DIEGO	4284	4284	4284	SAN DIEGO	4284	4284	4284
SAN FRANCISCO	1011	1011	1011	SAN FRANCISCO	1011	1011	1011	SAN FRANCISCO	1011	1011	1011	SAN FRANCISCO	1011	1011	1011
SANTA MARIA	2712	2712	2712	SANTA MARIA	2712	2712	2712	SANTA MARIA	2712	2712	2712	SANTA MARIA	2712	2712	2712
STOCKTON	2641	2641	2641	STOCKTON	2641	2641	2641	STOCKTON	2641	2641	2641	STOCKTON	2641	2641	2641
COLORADO				COLORADO				COLORADO				COLORADO			
ALAMOSA	8116	8116	8116	ALAMOSA	8116	8116	8116	ALAMOSA	8116	8116	8116	ALAMOSA	8116	8116	8116
COLORADO SPRINGS	5704	5704	5704	COLORADO SPRINGS	5704	5704	5704	COLORADO SPRINGS	5704	5704	5704	COLORADO SPRINGS	5704	5704	5704
GRAND JUNCTION	5796	5796	5796	GRAND JUNCTION	5796	5796	5796	GRAND JUNCTION	5796	5796	5796	GRAND JUNCTION	5796	5796	5796
PUEBLO	4688	4688	4688	PUEBLO	4688	4688	4688	PUEBLO	4688	4688	4688	PUEBLO	4688	4688	4688
CONNECTICUT				CONNECTICUT				CONNECTICUT				CONNECTICUT			
BRIDGEPORT	4447	4447	4447	BRIDGEPORT	4447	4447	4447	BRIDGEPORT	4447	4447	4447	BRIDGEPORT	4447	4447	4447
HARTFORD	5540	5540	5540	HARTFORD	5540	5540	5540	HARTFORD	5540	5540	5540	HARTFORD	5540	5540	5540
DELAWARE				DELAWARE				DELAWARE				DELAWARE			
WILMINGTON	4010	4010	4010	WILMINGTON	4010	4010	4010	WILMINGTON	4010	4010	4010	WILMINGTON	4010	4010	4010
DIST. OF COLUMBIA				DIST. OF COLUMBIA				DIST. OF COLUMBIA				DIST. OF COLUMBIA			
WASHINGTON DULLES	4444	4444	4444	WASHINGTON DULLES	4444	4444	4444	WASHINGTON DULLES	4444	4444	4444	WASHINGTON DULLES	4444	4444	4444
WASHINGTON NATIONAL	3225	3225	3225	WASHINGTON NATIONAL	3225	3225	3225	WASHINGTON NATIONAL	3225	3225	3225	WASHINGTON NATIONAL	3225	3225	3225
FLORIDA				FLORIDA				FLORIDA				FLORIDA			
APALACHICOLA	749	749	749	APALACHICOLA	749	749	749	APALACHICOLA	749	749	749	APALACHICOLA	749	749	749
DAYTONA BEACH	515	515	515	DAYTONA BEACH	515	515	515	DAYTONA BEACH	515	515	515	DAYTONA BEACH	515	515	515
FORT MEYERS	443	443	443	FORT MEYERS	443	443	443	FORT MEYERS	443	443	443	FORT MEYERS	443	443	443
JACKSONVILLE	933	933	933	JACKSONVILLE	933	933	933	JACKSONVILLE	933	933	933	JACKSONVILLE	933	933	933
KFT WEST	41	41	41	KFT WEST	41	41	41	KFT WEST	41	41	41	KFT WEST	41		

(Base 65°F.)

1

STORM SUMMARY

APRIL 1974

STATE	TORNADOES					HAIL STORMS				WINDSTORMS				LIGHTNING				HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	DAMAGE	DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE	
								PROP. ERTY	CROPS			PROP. ERTY	CROPS			PROP. ERTY	CROPS			PROP. ERTY	CROPS			PROP. ERTY	CROPS			PROP. ERTY	CROPS
Alabama	15	6	87	961	8			4	C			5	C																
Alaska																													
Arizona										2	1	4																	
Arkansas	2	2			5			3	C		3	5																	
California																													
Colorado	1	1			4							4				4													4
Connecticut																													
Delaware	1	1		2	4									1															
Florida	7	2	17	124	7							5				5													
Georgia																													
Hawaii																													
Idaho																										5	6	5	
Illinois	19	5	2	31	9			3			3	6																	
Indiana	22	3	49	883	8			4	3			5	4			4													
Iowa	3	1		18	5			4				5			1	3										2	6	5	
Kansas	6	2		3	4			3	3			4				4									1	3	5	4	
Kentucky	21	2	72		8		1				17	6													4				
Louisiana	4	2		5	5																				4	1			
Maine																													
Massachusetts																													
Michigan	10	5	2	38	6							3				4													
Minnesota	2	1			5			4				5			1													6	
Mississippi	9	5		4	5			4				4													4				
Missouri	8	2		2	5						31	7		1												9	9	8	4
Montana																													
Nebraska																													
Nevada	12	6		10	7			5				4	5													5			
New Hampshire																													
New Jersey	1	1			2									1		1									4		1	1	
New Mexico																													
New York	1	1										2	5																
North Carolina	8	4	7		7			5	4			4		2	1		4										1		
North Dakota																													
Ohio	11	2	39	1439	8			2				22	7													1		3	6
Oklahoma	3	2		5	6			5	5	1		6		1															
Oregon	1	1			4																								
Pennsylvania	1	1			4			3				3	5			1	4										2	5	
Puerto Rico																													
Rhode Island																													
South Carolina	3	1			4			2	4			3	4	3			5												
South Dakota	2	2		1	4																								
Tennessee	28	4	42	720	8			4	4			18	5	2			4												
Texas	19	10		20	6			5	4	1		5	4				5											5	C
Utah																													
Vermont																													
Virginia	4	1	1		6										1												1	15	6
Washington																													
West Virginia	3	1	1	32	6																								
Wisconsin	6	2	2	54	7												5												
Wyoming																													

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

APRIL 1974

Herbert J. Thompson and Ray J. Haley,
Office of Hydrology

Major flooding struck the State of Mississippi during April with record stages reported at some points on the Pearl and Leaf Rivers. Statewide, damage was estimated at \$60 million with 8 deaths and 20,000 people evacuated. Peak flows on a number of streams were two to three times the 50-year frequency flow. Several thousand homes and businesses were inundated.

Serious flash flooding occurred in the Hawaiian Islands with Oahu receiving most of the nearly \$4 million in damage. Five lives were lost. Major flooding continued from March in the Sacramento Basin. Significant flooding occurred along Oak Creek in South Dakota, Cypress Creek in Texas, and Arkansas Basin in Kansas, the Snake River Basin in Idaho, the Wabash and lower Ohio Basins, and the Tombigbee Basin in Alabama.

Minor to moderate flooding was reported along the Pee Dee and Santee Rivers in South Carolina, the Choctowhatchee River in Florida, the Upper Mississippi Basin in Minnesota, Wisconsin, and Iowa, the French Broad River in North Carolina, the White and St. Francis Basins in Arkansas, the lower Mississippi River along the southern Missouri border, and the Sabine River in Texas. Damaging flash floods struck several communities in Louisiana and Sanderson, Texas, in the Rio Grande Basin.

Hydrologic events of unusual significance or involving loss of life or property damage are discussed in more detail below.

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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HUDSON BAY DRAINAGE

Souris
River Basin

The winter snow accumulation over the Souris Basin was above normal. In Canada it was only slightly less than in 1969. However, snowmelt runoff south of the border occurred earlier and resulted in only minor flooding as discussed in last month's report.

0

N.A.

Although the estimated total snowmelt runoff of 275,000 acre-feet at the border gaging station near Sherwood, N. D., was only slightly below that of 1969 the pattern of melt was different since the peak stage at Sherwood of 23.52 feet (Flood Stage 18 feet) and discharge of 6,500 c.f.s. was significantly lower than the peak stage of 24.72 feet, discharge 12,000 c.f.s., which occurred in 1969. Flooding was reported at most points along the Souris River in North Dakota with crest stages ranging up to the 6.6 feet over flood stage reported near Westhope. Several counties along the river were declared disaster areas.

At Minot the crest stage of 1,555.4 feet, 1.9 feet over flood stage, was 4.5 feet lower than the crest of 1969. This difference was largely due to the operation of Lake Darling above Minot which provided 56,500 acre-feet of storage which was not available in 1969. Dikes were constructed at Minot by the Corps

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS-Continued

APRIL 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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HUDSON BAY DRAINAGE-Cont'd

of Engineers and a number of families were evacuated. However, few homes were flooded. Flooding at most points extended into May with crest stages occurring in May at some points on the lower reach of the river.

Red River of
the North
Basin

Serious flooding occurred over the northern (downstream) portion of the basin as a result of snowmelt runoff. Water content of the winter's accumulation of snow ranged from less than an inch over the extreme southern (headwater) portion of the basin to more than 5 inches over the Pembina River Basin in the northern portion of the Red Basin. As a result the southern portion of the basin had practically no flooding while a record crest stage was reported on the Pembina River at Neche, N. D. This crest would have been higher except for the failure of several dikes with consequent extensive flooding of farmlands. Several counties in northeastern North Dakota were declared disaster areas.

0

N.A.

Most tributaries of the Red River below Fargo, N. D., had some period of flooding with crests ranging up to more than 9 feet over flood stage. Along the main stem of the Red River at and below Fargo flooding was generally in the range of 3 to 8 feet with a crest more than 12 feet over flood stage occurring at Grand Forks, N. D. Flooding continued into May at and below Grand Forks on the Red River and on several tributaries.

ATLANTIC SLOPE DRAINAGE

Pee Dee
River Basin

Rainfall of 4 to 5 inches occurred on the 3d-5th over the headwaters of the Pee Dee River with moderate flooding along the Yadkin River. Damages were estimated at \$10,000. Water level in W. Kerr Scott Reservoir rose almost 10 feet in 24 hours. Downstream on the Pee Dee River moderate lowland flooding occurred from Blewett Lake, N. C., to Cheraw, S. C. Some damage was reported around Mt. Airy, N. C., on the 4th from flash flooding on Lovells & Stewarts Creeks and the Arrat River.

0

20

Santee
River Basin

Rainfall of 3.5 to 4 inches occurred over the headwater tributaries of the Santee River on the 3d-5th. Minor flooding occurred along the lower Saluda River and moderate flooding along the Broad River with a crest of nearly 9 feet over flood stage at Blair, S. C. Lookout Shoals Lake on the Catawba River

0

N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS-Continued

APRIL 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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ATLANTIC SLOPE DRAINAGE-Cont'd

crested 2.8 feet over full pool elevation. Lake Marion on the lower Santee River reached nearly full pool elevation by the 11th with consequent spillage and minor overflow below the reservoir until the 18th. Moderate lowland flooding was reported below Columbia, S. C., on the Congaree River. There are no stage reporting stations in that area.

EAST GULF OF MEXICO DRAINAGE

Choctawhatchee River Basin	Minor flooding occurred along the Choctawhatchee River and the Pea River, its major tributary. Damage was estimated by the Corps of Engineers at \$84,400 on the Choctawhatchee, about 75 percent to agriculture and the remainder to transportation facilities. Agricultural damage along the Pea was estimated at \$5,100.	0	90
Coosa River Basin	Heavy rains on the 3d-4th over the headwaters of the Alabama River caused flash flooding in the Coosa and Chattooga Basins in Georgia. Damage estimates by local government officials were: Chattooga County, \$150,000; Floyd County, \$105,500; and Polk County, \$150,000.	0	405
Alabama River	Heavy rains occurred during the first five days of April. While no reporting stations crested over flood stage, the Corps of Engineers estimated some damage along the Alabama River, of which 90 percent was agricultural and the remainder to roads and railroads.	0	34
Tombigbee River Basin	Significant flooding occurred in April as a result of rainfall which exceeded normal monthly totals by 1 to 2 inches. Nearly all rainfall occurred during the first half of the month with the heaviest amounts, 3 to 6 inches, on the 12th. The stage at Oliver Lock on the Black Warrior River in Tuscaloosa, Alabama rose 30 feet in 12 hours to crest 4.6 feet over flood stage on the 14th. Downstream at Warrior Lock and Dam the crest was 6.5 feet over flood stage. Damage along the Black Warrior River was estimated by the Corps of Engineers to be \$293,000, nearly all of it agricultural. Extensive lowland flooding occurred along the lower Tombigbee River with crests of about 8 to 11 feet over flood stage. Damage was estimated by the Corps of Engineers to be \$1,391,000, nearly all of it agricultural with minor damage to transportation facilities.	0	1,684

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS-Continued

APRIL 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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EAST GULF OF MEXICO DRAINAGE-Cont'd

Pascagoula River Basin	Major flooding occurred in the Pascagoula Basin in Mississippi with the Leaf River tributary bearing the brunt of the damage. Record or near record stages were reported at several points along the Leaf. Rainfall, most of which fell in 30 hours on the 12th-13th, ranged from 4 inches at the mouth to more than 20 inches in the headwaters of the Leaf River. Amounts of 20.36 inches near McGee and 20.76 inches at Sanitorium were reported. Rainfall over the Chickasawhay Basin ranged from 4 to about 8 inches.	U	N.A.
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The Leaf River flooded throughout its length with the crest stage at Hattiesburg (flood stage 22 feet) of 34.03 feet, surpassing the old record of 33.8 feet which occurred in April 1900. About 6,000 people were evacuated from the Hattiesburg area, where more than 6 square miles were flooded with water 15 feet deep in places. Downstream at Beaumont (flood stage 20 feet) the stage of 32.2 feet was the highest since February 1961. Some industrial plants in Forrest and Perry Counties were flooded, suspending operations for several days. At Laurel, Tallahala Creek crested at 21.85 feet, the highest since April 1964. About 2,000 people were driven from their homes around Laurel.

Along the Chickasawhay River crest stages were 7 to 14 feet over flood stage with the crest of 41.6 feet at Shubuta (flood stage 30 feet) being the highest since December 1919. The crests at Waynesboro and downstream along the Pascagoula River were the highest since February 1961. Cattle and logging operations were seriously affected with some cattle lost. There was much damage to transportation facilities, the amount of which is as yet undetermined.

Pearl River Basin	Record flooding also occurred in the Pearl River Basin in Mississippi from the storm discussed above. Rainfall over the basin ranged from less than 4 to about 16 inches. The crest of 26.8 feet at Edinburg (flood stage 20 feet) exceeded the modern record set in 1961 by 0.1 foot. However, the flood of March 1902 reached a stage of 29.0 feet as determined by floodmarks. At Monticello (flood stage 19 feet) the crest of 32.6 feet was well above the previous modern record of 30.15 which occurred April 8, 1938, but was exceeded by the flood of 1902 which reached 33.45 feet. At Columbia (flood stage	U	N.A.
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GENERAL SUMMARY OF NATIONAL FLOOD EVENTS-Continued

APRIL 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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EAST GULF OF MEXICO DRAINAGE-Cont'd

17 feet) the crest of 27.25 feet exceeded those of 1938 and 1909 but was well below the all time record of 31.0 feet which occurred in April 1874. The crest of 22.14 at Bogalusa (flood stage 15 feet) exceeded any recorded flood going back to 1938.

Flood waters invaded the business districts of Monticello and Columbia where many people were evacuated. Tributaries to the Pearl River between Rockport and Columbia had record or near record floods, and caused the fastest rise in history on the Pearl River at Rockport. The crest at Omo on Bahala Creek was 6 feet higher than any previous flood. Serious flooding occurred on the Bogue Chitto River. At Franklinton 75 families were evacuated and about 30 homes damaged.

UPPER MISSISSIPPI BASIN

Mississippi Basin in Minnesota	Above freezing temperatures the first 10 days of the month started the spring snow-melt over the northern part of the area. The ice went out on the Mississippi River at Fort Ripley on the 9th with crests slightly over flood stage at and above Fort Ripley later in the month. In southeastern Minnesota the snowmelt was augmented by rains of more than an inch on the 3d-4th which caused sharp rises on most streams with the South Fork Zumbro at Rochester and the Root River at Hokah going over flood stage. Damage at this season was minor.	0	N.A.
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Des Moines and Skunk River Basins	Four periods of moderate to heavy rainfall occurred over Iowa on the 3d-4th, 11th-14th, 20th-21st, and 28th with only the last period causing significant flooding. On the 28th a cold front which became stationary over central Iowa caused rainfall totals of 3 to 6 inches over a narrow band from Des Moines to Iowa City. Minor flooding occurred in the lower Raccoon Basin, crests 4 to 6 feet over flood stage were reported in the Skunk Basin, and 2 to 3 feet over flood stage on the North and Middle Rivers in the Des Moines Basin. Damage was primarily agricultural.	0	N.A.
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MISSOURI BASIN

Oak Creek	On the afternoon of the 19th rainfall of 2 to 7 inches fell over the headwaters of Oak Creek, a tributary of the Missouri River in north central South Dakota. The stream crested at Wakpala,	1	268
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GENERAL SUMMARY OF NATIONAL FLOOD EVENTS-Continued

APRIL 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
MISSOURI BASIN-Cont'd			
	S. D., at 4 a.m. on the 21st. There are no stage reporting stations on the stream. Damage to public and private property in Wakpala amounted to \$168,000. Agricultural damage was estimated at \$100,000. About 40 persons were evacuated around Wakpala. Several state highways were flooded including North Dakota Nos. 6 and 24 and South Dakota No. 63. One man was drowned when his car was washed off a bridge over Oak Creek.		
Kansas River Basin	On the 19th-21st, 2 to 3 inches of rain fell over a 50-75 mile wide area from Herington to Sabetha, Kansas. Many small streams overflowed. Minor flooding was reported on the Big Black Vermillion River at Frankfort and Soldier Creek at Grove. Moderate flooding occurred on Mill Creek at Paxico.	0	N.A.
OHIO BASIN			
Wabash River Basin	Flooding continued from March along the Little Wabash and Middle Wabash Rivers. General rains occurred almost daily during the first nine days of April with amounts of over an inch on the 7th and 8th. This rain prolonged flooding along the Little Wabash and middle Wabash Rivers with crest stages of about 3 to 6 feet over flood stage, and caused flooding along the lower Embarrass and White Rivers with crest stages 3 to 5 feet over flood stage. Crest stages along the lower Wabash ranged up to 4 feet over flood stage.	0	N.A.
Tennessee River Basin	Heavy rains of up to 2.5 inches from the 3d to the 5th caused flash flooding in the headwaters of the French Broad River with minor river flooding from above Rosman to Hot Springs, N. C.	0	N.A.
Ohio River	The lower Ohio River was higher than normal at the beginning of the month and rising. The general rains over the basin early in the month caused minor flooding from Tell City, Ind., down to Dam 49 at Uniontown, Kentucky. Downstream more significant flooding occurred due to heavy inflow from the flooding Wabash River with crests up to 8 feet over flood stage.	0	N.A.
WHITE BASIN			
Cache, Black and White Rivers	Monthly rainfall totals ranged from slightly below normal to 4 inches above normal over the lower portion of the basin. However, most of the rainfall occurred on the 21st-22d	2	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS-Continued

APRIL 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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WHITE BASIN-Cont'd

causing extensive flooding in the basins.

The Cache River, which had been above flood stage since Nov. 26, fell below flood stage early in the month but returned to flood conditions later in the month. Minor to moderate flooding occurred along the lower Current and Black Rivers. The lower White River, in flood since early December, fell below flood stage the middle of April only to return to flood conditions in response to the heavy rainfall. Two campers were drowned by flash flooding in southeastern Missouri. Farm operations were further delayed by the flooding.

ARKANSAS BASIN

Middle Arkansas Basin in Kansas	Monthly rainfall totals were 260 percent of normal over Kingman and Reno Counties in Kansas. Most of this occurred on the 20th when heavy rainfall of 4 to 6 inches was reported over the Upper Ninnescah and Cottonwood and the Little Arkansas and Arkansas Rivers.	1	252
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Major stream flooding of short duration occurred from the 20th to the 24th on the upper Ninnescah, Little Arkansas, Whitewater, Cow Creek, the Arkansas from near Oxford, Kansas, south to the Oklahoma border, and the entire Cottonwood basin. Overflow ranged from slightly over bankfull to six and one-half feet above flood stage at Plymouth, Kansas, on the Cottonwood River. Seventy-four thousand acres were inundated as a result of this storm in Kingman, Reno, Sumner, Marion, Harvey, and Sedgwick counties in Kansas. Loss of livestock, especially calves and young pigs along with considerable damage to crops, highways, bridges, bridge approaches, and homes in low lying areas occurred. One death occurred as a result of this storm in Reno County, when an elderly man drove into high water during daylight hours on the 20th.

RED BASIN

Sulphur River	Rains of 4 to 6.5 inches fell over the basin on the evening of the 21st. The heaviest amount was reported at Sulphur Springs, Texas. Moderate flooding occurred along the Sulphur River above Wright-Patman Reservoir, principally the South and Middle Forks. About 100 head of cattle were lost with some fence and bridge damage.	0	50
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GENERAL SUMMARY OF NATIONAL FLOOD EVENTS-Continued

APRIL 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
RED BASIN-Cont'd			
Cypress Creek Basin	Heavy rains occurred over a portion of the basin during the evening of the 21st. A total of more than 8 inches was reported at Atlanta, Texas. No flooding was reported along the main stem of Cypress Creek but substantial damage occurred along Black Bayou, a tributary, most of it around Atlanta.	0	160
Ouachita River Basin	During the 48-hour period of the 21st-22d from 6 to 9 inches of rain fell over the headwaters of the Ouachita and Saline Rivers in Arkansas. Moderate flooding occurred along the upper reaches of both streams with crests 6 to 7.5 feet over flood stage. Damage was not extensive. Urban flooding occurred in Monroe, La., from the storm of the 11th-12th.	0	N.A.
Lower Red River Basin	Significant flooding occurred although no reporting stations went over flood stage. At Natchitoches, La., more than 8 inches of rain fell on the 11th-12th. Several dozen families were evacuated from their homes. The Cane River was reported 3 feet out of banks. The City Reservoir rose 3 feet and roads were reported under as much as 4 feet of water. Some families were also evacuated at Natchez, La. At Winnfield, La., more than 11 inches of rain fell in 9 hours. The city was flooded when the earthen dam at the outlet of Spillway Lake gave way at about 2:30 a.m. on the 12th releasing about 130 million gallons of water into Sonnet Creek. About 14,000 acres in the Port de Luce watershed were flooded, about 35 homes received damage, and about 55 head of cattle were lost. Considerable street damage was reported. Nearly 13 inches of rain on the 12th-14th caused urban flooding in the Ferriday-Vidalia area of Louisiana.	0	N.A.
LOWER MISSISSIPPI BASIN			
St. Francis River Basin	Locally heavy showers on the 22d resulted in discharges of more than 6,000 c.f.s. from Wappapello Reservoir which caused flooding along the St. Francis River. There was probably no significant damage above that caused by the March flooding.	0	N.A.
Big Black River	The storm of the 12th-13th, which caused severe flooding in southern Mississippi as previously discussed, also caused significant flooding along the Big Black River which lasted for the remainder of the month. Rainfall amounts were somewhat less than in the Pearl River Basin but ranged up to more than 11 inches over the lower end of the basin.	U	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS-Continued

APRIL 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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LOWER MISSISSIPPI BASIN-Cont'd

Crest stages were more than 7 feet over flood stage along the Big Black River.

Lower Mississippi	With stages continuing at high levels, heavy inflow from the Ohio River caused minor flooding around Caruthersville, Mo., during April. Minor flooding continued from March into the first week of April at Red River Landing, La.	0	N.A.
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Sabine River Basin	Minor to moderate flooding occurred along the Upper Sabine above Gladewater, Texas, and along the Lake Fork near Quitman as a result of 3 to 6 inch rains the night of the 21st-22d. Some road damage was reported and several head of cattle were lost. Although rains of 2 to 7 inches were reported along the Lower Sabine from Bon Weir to Toledo Bend Dam on the 11th-12th, only minor flooding was observed at Deweyville.	0	N.A.
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Rio Grande River Basin	A flash flood occurred at Sanderson on Sanderson Creek in southwestern Texas the night of the 29th-30th. At Sanderson 2.02 inches of rain fell in one hour but 15 miles upstream at Longfellow, Texas, an unofficial amount of 6 inches in less than 2 hours was reported. A crest 2.5 feet over flood stage occurred at Sanderson at midnight. Damage was mainly to streets and automobiles.	0	50
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PACIFIC SLOPE DRAINAGE IN CALIFORNIA

Sacramento River Basin	Flooding in progress on the upper Sacramento River at the end of March continued into April. Late on March 31 the last of the series of storms which caused the initial flooding struck northern California. A second distinct flood crest occurred from Bend Bridge down to Vina Woodson Bridge which was roughly comparable in magnitude to the first crest. Downstream, crest stages were not above flood stage but exceeded warning stage at most points during the first week of April. A considerable amount of agricultural land was inundated. Some damage occurred to waterways, levees, roads, and highways. One flood-related death was reported.	1	N.A.
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COLUMBIA RIVER BASIN

Snake River Basin in Idaho	Controlled flooding occurred along the Boise River below Boise as a result of a snowpack which was 145 percent of normal on April 1. With runoff from the snowpack forecast at 1.9 million acre-feet and 500,000 acre-feet stored in a	0	250
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GENERAL SUMMARY OF NATIONAL FLOOD EVENTS-Continued

APRIL 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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COLUMBIA RIVER BASIN-Cont'd

reservoir system with a total capacity of 1 million acre-feet, it was necessary to schedule releases from the system which caused flooding of low-lying pasture land along the lower Boise. This flooding continued through the end of the month with damage of about \$250 per acre to 1,000 acres of pasture.

The Big Wood River went over flood stage at Hailey with no apparent damage since low-lying areas were protected by levees. Minor flooding was reported along Willow and Sand Creeks northeast of Idaho Falls. Minor flooding also occurred along the Portneuf River above Pocatello.

HAWAII

Between early morning and forenoon of the 19th, widespread flash flooding on the islands of Kauai and Oahu took the lives of 5 persons and caused property damage estimated at more than \$3 million.	5	3,858
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Meteorologically the situation was of a type historically associated with flooding rains in Hawaii: an upper trough overlying strong surface trade winds, whose orographic ascent substantially augmented storm rainfall intensities and affected their distribution. Thunderstorms were widespread. Wahiawa reported hail.

Rainfall appears to have been heaviest in the Waialua area of Oahu, where storm totals reached 6 to 13 inches at lower elevations and 15 to 21 inches over higher slopes that drained into the inundated lowlands. Helemanu Intake (at an elevation of 1,270 feet) recorded 10.8 inches in 4 hours (5 to 9 a.m.), of which 4.5 inches fell in a single hour, 3 inches in half an hour, and 2 inches in not over 10 minutes; values with recurrence intervals of 100 years or more. The storm total of 21.2 inches at Helemanu Intake was also the greatest amount reported on either island.

As is common in Hawaiian storms, rainfall gradients were steep, so that some other parts of Oahu had relatively little rain--for example, downtown Honolulu and Waikiki received less than an inch.

In northern Kauai, where storm totals reached 10 inches, a sand bar across the mouth of Wainiha Stream backed waters up

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS-Continued

APRIL 1974

Basins
and
Streams

FLOOD EVENT

Lives
Lost

Preliminary Estimate
of Property Damage
(thousands of dollars)

HAWAII-Cont'd

nearly 1 mile inland before it flushed away. Temporary living quarters along the stream were demolished and about 40 transients evacuated, some by helicopter. A 3-week old baby drowned in the rushing waters, but a 20-month old child was miraculously spared when her drifting body lodged among bushes. In southern Kauai flooding was minor, although 45 families in Hanapepe Valley were evacuated as a precautionary measure.

Many highways were blocked and power outages affected the entire island. Dollar damages on Kauai were light, however, reaching a total of only \$96,000. The crest stage of 14.28 feet on the Hanalei River near Hanalei, Kauai, was the highest of record, being 0.05 feet higher than those of Nov. 13, 1965 and Jan. 31, 1969. The crest stage of 19.05 feet on the Waimea River near Waimea, Kauai, was only 0.25 feet lower than the record crest of Feb. 7, 1949. Records on both streams have been kept since 1919.

Oahu was much harder hit, owing partly to chance, partly to the meteorologic and hydrologic conditions of storm and terrain, but in large measure to a far greater concentration of population and property within the affected areas. Flooding was most serious in the Wailua-haleiwa area, along the north shore at the confluence of a number of streams that drain the leeward slopes of the northern Koolaus. Two quonset huts, one of them containing a family of seven, were swept off their foundations and down Paukauila Stream. Four of the family were rescued, but two children and their mother were drowned. A number of other persons were evacuated without further loss of life, but damage was heavy to homes, business establishments, livestock, crops, fields, and irrigation facilities.

In the Honolulu area of southern Oahu damage was greatest in a heavily industrialized district near the mouth of the Moanalua and Kalihi Streams, where rushing water overtopped bridges, inundated parking lots, and the H-1 Freeway to windshield-height, damaging several hundred cars, and entered a number of major industrial establishments. Losses on Oahu totalled \$3,761,500.

The storm's fifth drowning occurred in the Schofield area of central Oahu, where an 18-year old boy fell into a

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS-Continued

APRIL 1974

Basins
and
Streams

FLOOD EVENT

Lives
Lost

Preliminary Estimate
of Property Damage
(thousands of dollars)

HAWAII-Cont'd

raging stream and was swept into a culvert.

Most of the flood damage appears to have occurred between about 6 and 8 a.m. on northern Kauai and between about 9 and 11 a.m. on Oahu. Flooding was greatly increased in places by obstructions in river mouths, culverts, and stream beds and by poorly designed bridges, which acted as dams to send flood waters surging over stream banks.

Peak stages and discharges for several Oahu streams were the greatest of record as follows:

STREAM	April 19, 1974		Previous Maximum		Period of	
	Stage Ft.	CFS	Date	Stage (ft)	CFS	Record
Poamoho at Waialua	23.76	6,940*	2/1/69	22.38	6,500	1967
Waimea nr. Kawaihoa Camp	7.53	600	2/1/69	4.76	302	1968
Anahulu nr. Haleiwa	14.88	16,300*	2/1/69	13.30	9,600	1958
Halemano at Haleiwa	22.51	18,400*	2/1/69	17.63	11,300	1968
Opaeula nr. Haleiwa	21.0	6,670*	2/1/69	18.43	5,970	1956
Moanalua at Tripler Hsptl.	U	5,280	11/26/70	16.78	2,420	1971
Kalihi at Kalihi	9.98	7,200	11/14/65	U	7,000	1960

* Provisional

FLOOD STAGE DATA

River and station	Flood stage	Above flood stages - dates ¹		Crest		River and station	Flood stage	Above flood stages - dates ²		Crest	
		From—	To—	Stage	Date ¹			From—	To—	Stage	Date ²
	Ft			Ft			Ft			Ft	
MUDSON BAY DRAINAGE-Cont'd						MUDSON BAY DRAINAGE-Cont'd					
Red River of the North-Continued						Red River of the North-Continued					
Foxholm 3 E, N. D.	12	15	12	11.8	May 19	Pembina, N. D.	86.60	86.60	86.60	86.60	May 19
Emerson, Manitoba, Canada	86.60	86.60	86.60	86.60	May 19	Emerson, Manitoba, Canada	86.60	86.60	86.60	86.60	May 19
ST. LOUIS RIVER DRAINAGE						ST. LOUIS RIVER DRAINAGE					
Red Cedar River:						Red Cedar River:					
Williamston, Mich.	7.9	7.9	7.9	7.9	May 19	Williamston, Mich.	7.9	7.9	7.9	7.9	May 19
East Lansing, Mich.	7.1	7.1	7.1	7.1	May 19	East Lansing, Mich.	7.1	7.1	7.1	7.1	May 19
Grand River:						Grand River:					
Clinton River:	12.63	12.63	12.63	12.63	May 19	Clinton River:	12.63	12.63	12.63	12.63	May 19
Fraser, Mich.	8.2	8.2	8.2	8.2	May 19	Fraser, Mich.	8.2	8.2	8.2	8.2	May 19
Middle River Rouge:						Middle River Rouge:					
Garden City, Mich.	10.2	10.2	10.2	10.2	May 19	Garden City, Mich.	10.2	10.2	10.2	10.2	May 19
Inkster, Mich.						Inkster, Mich.					
Huron River:	15.4	15.4	15.4	15.4	May 19	Huron River:	15.4	15.4	15.4	15.4	May 19
Ann Arbor, Mich.	18.74	18.74	18.74	18.74	May 19	Ann Arbor, Mich.	18.74	18.74	18.74	18.74	May 19
St. Marys:						St. Marys:					
St. Josephs:	10.4	10.4	10.4	10.4	May 19	St. Josephs:	10.4	10.4	10.4	10.4	May 19
Montpelier, Ohio	12.6	12.6	12.6	12.6	May 19	Montpelier, Ohio	12.6	12.6	12.6	12.6	May 19
Ft. Wayne, Ind.						Ft. Wayne, Ind.					
Carbutt, N. Y.	5.9	5.9	5.9	5.9	May 19	Carbutt, N. Y.	5.9	5.9	5.9	5.9	May 19
Churchville, N. Y.						Churchville, N. Y.					
ATLANTIC SLOPE DRAINAGE						ATLANTIC SLOPE DRAINAGE					
Skowhegan, Me.						Skowhegan, Me.					
Connecticut:						Connecticut:					
Hartford, Conn.	17.5	17.5	17.5	17.5	May 19	Hartford, Conn.	17.5	17.5	17.5	17.5	May 19
Bodkin Rock, Conn.	8.3	8.3	8.3	8.3	May 19	Bodkin Rock, Conn.	8.3	8.3	8.3	8.3	May 19
Sherburne, N. Y.						Sherburne, N. Y.					
Chemung:						Chemung:					
Chemung, N. Y.	12.18	12.18	12.18	12.18	May 19	Chemung, N. Y.	12.18	12.18	12.18	12.18	May 19
Danville, Va.						Danville, Va.					
Randolph, Va.	10.9	10.9	10.9	10.9	May 19	Randolph, Va.	10.9	10.9	10.9	10.9	May 19
Williamston, N. C.						Williamston, N. C.					
Smithfield, N. C.	15.5	15.5	15.5	15.5	May 19	Smithfield, N. C.	15.5	15.5	15.5	15.5	May 19
Goldsboro, N. C.	14.80	14.80	14.80	14.80	May 19	Goldsboro, N. C.	14.80	14.80	14.80	14.80	May 19
Kinston, N. C.						Kinston, N. C.					
Huske Lock & Dam, N. C.	22.7	22.7	22.7	22.7	May 19	Huske Lock & Dam, N. C.	22.7	22.7	22.7	22.7	May 19
Elizabethtown, N. C.						Elizabethtown, N. C.					
Elkin, N. C.	18.8	18.8	18.8	18.8	May 19	Elkin, N. C.	18.8	18.8	18.8	18.8	May 19
Yadkin College, N. C.						Yadkin College, N. C.					
Yadkin College, N. C.	24.2	24.2	24.2	24.2	May 19	Yadkin College, N. C.	24.2	24.2	24.2	24.2	May 19

FLOOD STAGE DATA

ALL STAGES IN FEET UNLESS OTHERWISE SPECIFIED

APRIL 1974

River and station	Flood stage	Above flood stages - dates ¹		Crest ¹		River and station	Flood stage	Above flood stages - dates ¹		Crest ¹	
		From—	To—	Stage	Date ¹			From—	To—	Stage	Date ¹
	Ft.			Ft.			Ft.			Ft.	
ATLANTIC SLOPE DRAINAGE-Cont'd						EAST GULF OF MEXICO DRAINAGE Continued					
Norwood, N. C.	15			15		Leaf:					
Lumberton, N. C.	9	Mar 31	18	9.4	3	Hattiesburg, Miss.	14	19	34.03	15	
Cheraw, S. C.	19			34.1		Beaumont, Miss.	20	14	23	32.2	17
Pee Dee, S. C.	19		19	22.4	13	Chickasawhay:					
Caffney, S. C.	14			22.7	6	Enterprise, Miss.	20	13	17	34.2	15
Blair, S. C.	14			22.7	6	Shubuta, Miss.	30	14	21	41.6	16
Chappells, S. C.	14			14.4	6	Waynesboro, Miss.	35	17	23	41.9	18
S. Fork Catawba:						Pascagoula:					
McAdenville, N. C.	10			10.1	5	Merrill, Miss.	22	15	25	28.0	19
Catawba:						Yockanookany:					
Lookout Shoals Reservoir, N.C.	100			100.8	5	Ofahoma, Miss.	14	13	19	16.1	14
Savannah:						Bogue Chitto:					
Millhaven-Wade 2 SE, Ga.	18	11	19	16.7	15-16	Franklin, La.	11	14	17	18.02	15
Clyo, Ga.	11	1	25	15.0	18-19	Pearl:					
Midville, Ga.	6	1	10	6.3	10	Edinburg, Miss.	20	13	20	26.80	15
Scarboro, Ga.	8	12	16	9.4	13	Carthage, Miss.	17	4	8	17.6	5
Eden, Ga.	9	17	21	10.2	18	Carthage, Miss.	13	22	24.5	16	
Macon, Ga.	18			22.8	5	Monticello, Miss.	18	13	10	22.6	6
Oconee:						Monticello, Miss.	19	3	5	19.7	3
Milledgeville, Ga.	21	10	10	21.2	10	Columbia, Miss.	17	14	1	27.25	15
Dublin, Ga.	16	11	16	17.3	14	Bogalusa, La.	15	Mar 27	May 7	22.14	18
Mt. Vernon, Ga.	16	11	16	17.3	14	Pearl River, La.	12	Mar 28	12	14.92	Mar 30
Altamaha:						Upper Mississippi Basin					
Charlotte, Ga.	15	14	19	17.1	16	Chippewa:					
EAST GULF OF MEXICO DRAINAGE						Durand, Wis.	11	15	17	11.08	16
Apalachicola:						South Fork Zumbro River:					
Blountstown, Fla.	15		19	20.3	8	Rochester, Minn.	12	4	4	13.4	4
Caryville, Fla.	12	8	10	12.5	9	Trempealeau River:					
Oostanaula:						Dodge, Wis.	7	5	7	7.76	6
Resaca, Ga.	22		8	22.7	7	Root River:					
Rome, Ga.	25			26.9	5	Hokah, Minn.	47	4	6	49.2	5
Fulton, Miss.	16	13	16	16.24	14	Kickapoo River:					
Tibbee Creek:						Steuben, Wis.	8	16	19	8.08	17
Tibbee, Miss.	14		17	25.95	14	Perryville, Ill.	10	14	15	10.4	14-15
Black Warrior:						Rock River:					
Bankhead Lock & Dam, Ala.	15		13	15.6	13	Afton, Wis.	8	Mar 7	May 5	9.5	22-24
Tuscaloosa Lock & Dam, Ala.	17	13	14	51.6	13	Joslin, Ill.	12	17	14	12.1	17-18
Warrior Lock & Dam, Ala.	16	14	19	51.5	16	South Skunk River:					
Tombigbee:						Oskaloosa, Iowa	15	29	May 1	19.23	30
Amory, Miss.	13		15	20.9	14	North Skunk River:					
Gainesville, Ala.	14		21	43.7	16	Sigourney, Iowa	16	30	May 3	22.00	30
Demopolis Lock & Dam, Ala.	14		22	59.1	17	East Fork Des Moines River:					
Coffeeville Lock & Dam, Ala.	13		11	53.5	21	Burt, Iowa	10	14	16	16.2	15
Laurel, Miss.	13		21	21.85	14	Van Meter, Iowa	13	21	21	13.47	21
						Des Moines SW 18th, Iowa	12	29	29	12.0	19
						North River:					
						Norwalk, Iowa	18	28	May 2	21.77	30
						Middle River:					
						Indianola, Iowa	19	29	29	22.27	29
						Illinois River:					
						Havana, Ill.	14	Jan 23	May 3	17.6	Mar 16
						Beardstown, Ill.	14	Jan 22	May 4	19.6	Mar 18
						Meredosia, Ill.	32	Jan 23	29	40.7	Feb 3

FLOOD STAGE DATA

River and station	Flood stage	Above flood stages - dates ¹		Crest		River and station	Flood stage	Above flood stages - dates ¹		Crest	
		From-	To-	Stage	Date ²			From-	To-	Stage	Date ²
<u>Mississippi River</u>	<u>Ft.</u>			<u>Ft.</u>		<u>Ohio Basin-Cont'd</u>	<u>Ft.</u>				
Wichita River						Ohio-Continued:					
Atkin, Minn.	15	Mar. 1	15.00	15.00	20	Dam 48, Cypress, Ind.				138.0	11
Ft. Ripley, Minn.	10	Mar. 1	10.75	10.75	20	Mt. Vernon, Ind.				139.8	11
Keithsburg, Ill.	12	Mar. 1	12.00	12.00	20	Shawneetown, Ill.				137.0	11
<u>Missouri Basin</u>						Dam 50, Fords Ferry, Ky.				137.0	11
North Platte River:						Cairo, Ill.				137.0	11
Mitchell, Nebr.	8	Mar. 1	8.00	8.00	1	<u>White Basin</u>					
Bridgeport, Nebr.	8	Mar. 1	8.25	8.25	1	Patterson, Ark.				7.9	11
Lewellen, Nebr. (N. Channel)	8	Mar. 1	8.00	8.00	1	Current:					
North Platte, Nebr.	8	Mar. 15	8.00	8.00	15	Doniphan, Mo.				1.1	11
Platte:						Black:					
Brady, Nebr. (Channel No. 1)	5	Mar. 1	5.00	5.00	1	Pocahontas, Ark.	12	Mar. 1	12.00	1.91	11
Black Vermillion River:						Black Rock, Ark.	14	Mar. 1	14.00		11
Frankfort, Kan. (Highway 9)	14	Mar. 1	14.15	14.15	21	White:					
Mill Creek:						Georgetown, Ark.	21	Mar. 1	21.00	1.4	11
Paxico, Kan.	19	Mar. 1	19.00	19.00	1	Clarendon, Ark.	21	Mar. 1	21.00	26.55	11
Soldier Creek:						St. Charles, Ark.	21	Mar. 1	21.00	26.0	11
Grove, Kan.	17	Mar. 1	17.25	17.25	21	<u>Arkansas Basin</u>					
<u>Scioto</u>						Cow Creek:					
Circleville, Ohio	14	Mar. 1	14.08	14.08	5	Lyons, Kan.	18	Mar. 1	18.00	19.0	11
Piketon, Ohio	16	Mar. 1	16.45	16.45	6	Little Arkansas:					
Embarrass:						Halstead, Kan.	18	Mar. 1	18.00	11.0	11
Lawrenceville, Ill.	11	Mar. 1	11.41	11.41	11	Sedgwick, Kan.	18	Mar. 1	18.00	11.0	11
East Fork White:						S. Fork Minnescah:					
Seymour, Ind.	14	Mar. 1	14.10	14.10	1	Murdock, Kan.	8	Mar. 1	8.00	11.0	11
Spencer, Ind.	14	Mar. 1	14.41	14.41	1	Whitewater:					
Elliston, Ind.	14	Mar. 1	14.10	14.10	9	Cottonwood:					
Edwardsport, Ind.	13	Mar. 1	13.00	13.00	10	Florence, Kan.	22	Mar. 1	22.00	11.0	11
Petersburg, Ind.	16	Mar. 1	16.56	16.56	1	Cottonwood Falls, Kan.	9	Mar. 1	9.00	11.0	11
Hazleton, Ind.	16	Mar. 1	16.15	16.15	13	Plymouth, Kan.	10	Mar. 1	10.00	11.0	11
Little Wabash:						Emporia, Kan.	10	Mar. 1	10.00	22.0	11
Wilcox, Ill.	16	Mar. 1	16.04	16.04	1	Illinois:					
Lafayette, Ind.	11	Mar. 1	11.25	11.25	16	Tahlequah, Okla.	11	Mar. 1	11.00	11.2	11
Covington, Ind.	14	Mar. 1	14.00	14.00	6	Arkansas:					
Monteruma, Ind.	14	Mar. 1	14.00	14.00	10	Oxford, Kan.	14	Mar. 1	14.00	11.0	11
Terre Haute, Ind.	14	Mar. 1	14.00	14.00	10	Arkansas City, Kan.	1	Mar. 1	1.00	21.46	11
Hutsonville, Ill.	16	Mar. 1	16.00	16.00	10	Clover:					
Riverton, Ind.	15	Mar. 1	15.00	15.00	10	Clover, Okla.	15	Mar. 1	15.00	11.0	11
Vincennes, Ind.	16	Mar. 1	16.00	16.00	10	Sulphur:					
New Harmony, Ind.	15	Mar. 1	15.00	15.00	10	Hagansport, Tex.				47.0	11
French Broad:						Naples, Tex.				47.59	11
Rosman, N. C.	10	Mar. 1	10.16	10.16	10	Saline:					
Blantyre, N. C.	10	Mar. 1	10.16	10.16	10	Benton, Ark.				50.0	11
Marshall, N. C.	10	Mar. 1	10.16	10.16	10	Quachita:					
Hot Springs, N. C.	10	Mar. 1	10.16	10.16	10	Arkadelphia, Ark.				11.17	11
Tennessee:						Camden, Ark.				11.0	11
Tell City, Ind.	14	Mar. 1	14.00	14.00	10	<u>Lower Mississippi Basin</u>					
Dam 47, Newburgh, Ind.	14	Mar. 1	14.00	14.00	10	St. Francis:					
						St. Francis, Ark.				18.54	11

FLOOD STAGE DATA

CONTINUED TO APPENDIX B, OTHERS, SECTION 1000

APRIL 1974

River and station	Flood stage	Above flood stages - dates ¹		Crest ²		River and station	Flood stage	Above flood stages - dates ¹		Crest ²	
		From—	To—	Stage	Date ³			From—	To—	Stage	Date ³
	Ft			Ft			Ft			Ft	
Continued						Continued					
Angelfina:						Angelfina:					
Lufkin, Tex. (Near)	10	1	5	10.70	Mar 3	Lufkin, Tex. (Near)	10	1	5	10.70	Mar 3
Diboll, Tex. (Near)	10	1	5	11.60	Mar 8	Diboll, Tex. (Near)	10	1	5	11.60	Mar 8
East Fork Trinity:						East Fork Trinity:					
Crandall, Tex.	11	1	5	11.41	Mar 24	Crandall, Tex.	11	1	5	11.41	Mar 24
Sanderson, Tex.	7	1	5	9.5	Mar 29	Sanderson, Tex.	7	1	5	9.5	Mar 29
PACIFIC SLOPE DRAINAGE						PACIFIC SLOPE DRAINAGE					
Red Bluff, Calif.	21	Mar 10	3	21.5	1	Red Bluff, Calif.	21	Mar 10	3	21.5	1
Tehama Bridge, Calif.	213	Mar 29	4	219.1	1	Tehama Bridge, Calif.	213	Mar 29	4	219.1	1
Vina Woodson Bridge, Calif.	183	Mar 29	4	188.3	2	Vina Woodson Bridge, Calif.	183	Mar 29	4	188.3	2
Big Wood:						Big Wood:					
Hailey, Idaho	4.0	25	27	4.0	Mar 25	Hailey, Idaho	4.0	25	27	4.0	Mar 25
John Day:						John Day:					
Greenville, Tex.	15	1	5	16.62	Mar 2	Greenville, Tex.	15	1	5	16.62	Mar 2
Emory, Tex.	14	1	5	13.52	May 1	Emory, Tex.	14	1	5	13.52	May 1
Deveyville, Tex.	14	1	5	16.71	May 1	Deveyville, Tex.	14	1	5	16.71	May 1

Average monthly values

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

ALBANY, N. Y. 1305 MB													ALBUQUERQUE, N. MEX. 830 MB													AMARILLO, TEXAS 889 MB													ANCHORAGE, ALASKA 1007 MB													ANNETTE, ALASKA 1011 MB												
Standard pressure surface (mb)		No of observations		Dynamic height		Temperature		Dew Point		Resultant Wind		Speed		No of observations		Dynamic height		Temperature		Dew Point		Resultant Wind		Speed		No of observations		Dynamic height		Temperature		Dew Point		Resultant Wind		Speed		No of observations		Dynamic height		Temperature		Dew Point		Resultant Wind		Speed																
Hour	Minute	Pressure	Height	Temp	Dew	Wind	Speed	Height	Temp	Dew	Wind	Speed	Height	Temp	Dew	Wind	Speed	Height	Temp	Dew	Wind	Speed	Height	Temp	Dew	Wind	Speed	Height	Temp	Dew	Wind	Speed	Height	Temp	Dew	Wind	Speed	Height	Temp	Dew	Wind	Speed	Height	Temp	Dew	Wind	Speed																	
1000	30	86	5.3	1.7	27	1.3	1619	6.7	-11.9	08	7.30	10095	9.2	-1.3	74	2.6	33	45	1.4	-2.5	18	1.1	38	37	4.5	1.8	13	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2															
900	30	157	5.4	-1.8	28	1.9											15	110	2.3	-5.2	21	7.25	142	4.4	1.8	14	3.4	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2															
800	30	548	5.7	-1.3	29	4.4											30	470	8	-6.1	13	2.8	531	2.2	-5.5	15	5.0	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2															
700	30	789	4.1	-2.1	29	7.2											30	907	-2.0	-7.7	17	2.7	768	4.4	-2.6	17	5.0	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2															
600	30	1483	2.3	-6.9	29	9.1											30	1356	-5.3	-10.3	13	4.7	1362	5.5	-1.1	17	6.1	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2															
500	30	1941	1.1	-8.6	29	10.5	30	1982	7.1	-12.2	29	1.3	30	1970	8.9	-6.8	27	8.1	30	1832	-8.6	-12.8	13	7.4	29	1900	-5.5	-1.1	19	6.5	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2																		
400	30	2456	-2.5	-10.3	28	12.6	30	2510	3.8	-14.2	27	4.7	30	2501	5.9	-11.1	27	9.1	30	2429	-11.7	-16.3	14	8.4	29	2483	-8.6	-13.7	19	6.9	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2																		
300	30	3041	-5.3	-14.9	28	14.5	30	3056	-4.3	-16.8	28	7.6	30	3062	2.0	-14.9	27	9.7	30	2854	-15.3	-19.9	16	7.4	29	2935	-11.6	-18.3	20	6.1	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2																		
200	30	3579	-8.3	-16.9	28	15.8	30	3654	-4.6	-19.6	27	9.2	30	3655	-2.4	-11.1	26	11.0	30	3411	-18.7	-23.8	17	6.7	29	3500	-11.6	-22.0	21	6.5	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2																		
100	30	4197	-11.8	-20.6	28	17.5	30	4279	-9.0	-22.1	28	11.8	30	4285	-7.0	-20.1	26	12.8	30	4003	-22.3	-28.1	17	6.1	29	4102	-11.8	-23.5	18	7.2	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2																		
000	30	4658	-15.9	-24.6	28	19.5	30	4746	-13.6	-26.4	26	15.0	30	4757	-11.9	-24.5	26	14.8	30	4438	-26.3	-32.6	17	6.1	29	4745	-22.6	-29.6	22	7.9	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2																		
050	30	5570	-20.8	-28.6	28	21.4	30	5655	-18.2	-32.7	26	18.1	30	5679	-17.4	-28.8	26	17.7	30	5320	-31.1	-36.9	18	6.5	29	5439	-27.4	-35.5	23	8.8	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2																					
100	30	6542	-25.5	-36.1	28	23.2	30	6643	-23.5	-37.7	26	20.2	30	6646	-22.7	-34.7	26	20.5	30	6059	-36.4	-46.1	19	6.8	29	6190	-32.6	-40.5	23	10.2	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2																					
150	30	7187	-31.5	-42.1	28	24.0	30	7294	-29.7	-43.0	26	19.9	30	7314	-28.9	-40.4	26	22.2	30	6886	-42.1	-43.7	20	7.4	29	7009	-38.8	-44.0	24	11.8	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2																					
200	30	8112	-38.6	-43.9	28	25.5	29	8245	-36.1	-47.5	26	23.8	30	8258	-35.9	-44.4	26	25.1	30	7761	-47.6		21	7.7	29	7915	-45.3		23	14.8	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2																					
250	30	9163	-46.1		28	27.3	29	9295	-43.9		26	26.9	30	9309	-43.5		26	28.8	30	8767	-51.7		21	8.0	29	8926	-52.1		24	15.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2																					
300	30	10135	-53.0		28	29.1	29	10266	-51.7		26	28.3	30	10313	-51.8		26	32.3	30	9794	-55.5		21	8.6	29	10094	-50.0		24	15.8	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2																					
350	30	11174	-57.9		28	30.7	29	11292	-59.0		26	27.1	30	11345	-59.0		26	32.6	30	10601	-63.9		20	8.0	29	10819	-59.9		25	16.2	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2																					
400	30	12261	-61.6		28	27.4	27	12374	-61.0		26	26.0	30	12370	-60.2		26	31.4	30	12276	-68.5		20	8.4	29	12372	-59.7		25	10.6	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2																					
450	30	13358	-57.8		27	24.2	27	13373	-60.7		26	21.8	30	13370	-60.2		26	26.6	30	13293	-68.5		20	3.2	29	13366	-52.7		4	9.1	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2																					
500	30	14744	-56.6		28	17.8	27	14845	-62.2		26	20.5	30	14866	-61.0		26	24.4	29	14444	-69.0		21	4.2	29	14544	-52.7		25	6.8	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2																					
550	30	16157	-57.9		27	13.6	27	16217	-63.9		26	16.1	29	16250	-62.9		26	17.5	29	15957	-69.6		21	2.5	29	15965	-52.8		25	4.9	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2																					
600	30	17650	-58.8		28	10.1	25	17587	-63.1		26	8.0	27	17628	-63.3		26	10.3	29	17418	-69.8		19	2.0	29	17421	-53.0		24	3.4	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2																					
650	30	18938	-58.4		28	8.7	24	18949	-63.2		25	3.9	27	18946	-63.3		25	7.7	29	18921	-67.9		18	1.8	29	18927	-53.0		24	2.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2																					
700	30	19370	-57.6		29	6.5	25	19360	-62.4		25	2.6	26	19339	-62.2		25	4.9	29	19249			16	1.4	28	19281	-53.0		25	1.4	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2																					
750	30	20523	-57.1		29	4.4	25	20492	-62.0		25	1.5	26	20331	-60.0		25	1.3	29	20488	-50.6		12	1.6	28	20457	-53.1		26	2.6	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2																					
800	30	21936	-56.2		31	2.5	25	21892	-58.1		05	1.3	26	21932	-57.9		28	1.2	29	21941	-51.1		11	2.2	28	21894	-53.6		27	1.2	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2																					
850	30	23772	-55.2		31	2.5	25	23714	-55.9		06	2.6	26	23757	-55.2		32	1.5	29	23810	-51.7		09	3.7	24	23974	-53.9		06	3.0	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2																					
900	30	24940	-54.0		33	3.1	24	24886	-54.3		06	2.1	26	24923	-53.8		31	2.0	25	24994	-51.6		09	4.9	19	24900	-54.2		07	3.6	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2																					
950	30	26376	-52.0		33	2.7	26	26326	-51.5		29	1.8	26	26367	-51.4		28	2.0	25	26443	-51.4		08	6.8	17	26333	-53.2		08	4.6	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2																					
1000	30	28268	-48.5		28	4.9	19	28219	-48.6		17	4.3	26	28259	-47.9		27	4.6	25	28346	-49.8		09	7.7	12	28322	-51.1		08	6.4	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2	4	1.3	2.2																					
1050	30	30910	-44.6		6	30	910	-44.6		6	30	910	-44.6		6	30	910	-44.6		1	31	010	-67.5		1	33	333	-64.6																																				

Average monthly values

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RAWINSONDE DATA

Average monthly values

GREAT FALLS, MONT. 830 MB										GREAT FALLS, MONT. 830 MB										GREAT FALLS, MONT. 830 MB										GREAT FALLS, MONT. 830 MB									
Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed									
950	19	1971	2.7	-3.4	13	2.2	31	1973	-4.5	-5.9	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
800	3	1971	4.0	-6.1	13	2.2	31	1973	1.3	-7.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
750	3	1971	1.0	-6.1	13	3.2	31	1973	-2.0	-7.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
700	3	1971	-3.3	-12.1	13	4.5	31	1973	-5.9	-13.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
650	3	1971	-7.5	-15.1	13	5.5	31	1973	-9.0	-16.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
600	3	1971	-11.5	-20.1	13	6.5	31	1973	-13.1	-21.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
550	3	1971	-16.0	-25.1	13	7.5	31	1973	-17.5	-25.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
500	3	1971	-21.1	-30.1	13	8.5	31	1973	-22.1	-30.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
450	3	1971	-26.1	-35.1	13	9.5	31	1973	-27.1	-35.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
400	3	1971	-31.1	-40.1	13	10.5	31	1973	-32.1	-40.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
350	3	1971	-36.1	-45.1	13	11.5	31	1973	-37.1	-45.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
300	3	1971	-41.1	-50.1	13	12.5	31	1973	-42.1	-50.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
250	3	1971	-46.1	-55.1	13	13.5	31	1973	-47.1	-55.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
200	3	1971	-51.1	-60.1	13	14.5	31	1973	-52.1	-60.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
150	3	1971	-56.1	-65.1	13	15.5	31	1973	-57.1	-65.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
100	3	1971	-61.1	-70.1	13	16.5	31	1973	-62.1	-70.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
50	3	1971	-66.1	-75.1	13	17.5	31	1973	-67.1	-75.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
5	3	1971	-71.1	-80.1	13	18.5	31	1973	-72.1	-80.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
10	3	1971	-76.1	-85.1	13	19.5	31	1973	-77.1	-85.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
15	3	1971	-81.1	-90.1	13	20.5	31	1973	-82.1	-90.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
20	3	1971	-86.1	-95.1	13	21.5	31	1973	-87.1	-95.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
25	3	1971	-91.1	-100.1	13	22.5	31	1973	-92.1	-100.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
30	3	1971	-96.1	-105.1	13	23.5	31	1973	-97.1	-105.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
35	3	1971	-101.1	-110.1	13	24.5	31	1973	-102.1	-110.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
40	3	1971	-106.1	-115.1	13	25.5	31	1973	-107.1	-115.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
45	3	1971	-111.1	-120.1	13	26.5	31	1973	-112.1	-120.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
50	3	1971	-116.1	-125.1	13	27.5	31	1973	-117.1	-125.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
55	3	1971	-121.1	-130.1	13	28.5	31	1973	-122.1	-130.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
60	3	1971	-126.1	-135.1	13	29.5	31	1973	-127.1	-135.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
65	3	1971	-131.1	-140.1	13	30.5	31	1973	-132.1	-140.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
70	3	1971	-136.1	-145.1	13	31.5	31	1973	-137.1	-145.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
75	3	1971	-141.1	-150.1	13	32.5	31	1973	-142.1	-150.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
80	3	1971	-146.1	-155.1	13	33.5	31	1973	-147.1	-155.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
85	3	1971	-151.1	-160.1	13	34.5	31	1973	-152.1	-160.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
90	3	1971	-156.1	-165.1	13	35.5	31	1973	-157.1	-165.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
95	3	1971	-161.1	-170.1	13	36.5	31	1973	-162.1	-170.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
100	3	1971	-166.1	-175.1	13	37.5	31	1973	-167.1	-175.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
105	3	1971	-171.1	-180.1	13	38.5	31	1973	-172.1	-180.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
110	3	1971	-176.1	-185.1	13	39.5	31	1973	-177.1	-185.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4	1.1	17	3.9	29	147	13.0	7.7	32	9.0									
115	3	1971	-181.1	-190.1	13	40.5	31	1973	-182.1	-190.1	17	6.5	31	1975	3.4	-4.1	17	1.8	31	1977	12.4																		

Average monthly values

34

Average monthly values

Average monthly values

- 11 - 12/99

TUCSON, ARIZ. 923 FB										VANDENBERG AFB, CALIF. 1007 MB										VICTORIA, TLY45 1011 MB										WAKE IS., PACIFIC AREA 1016										WALLUPS IS., V.I. NAS 1017 MB									
SURFACE	30	709	10.6	-5.5	8	2.4	28	100	9.3	6.4	34	1.8	30	17.2	14.9	1.1	1.1	30	5	24.7	22.6	07	8.8	5	9.9	7.6	24	1.8																					
1000							28	154	10.0	6.4	35	30	28	131	19.0	14.4	1.1	4.9	30	543	24.1	20.9	08	9.3	5	140	17.1	3.8	25																				
950							28	591	6.0	2.4	35	6.1	30	555	17.0	10.6	14	5.6	30	591	20.6	18.8	08	11.4	3	570	11.3	2.6	26																				
900							28	1031	9.6	-1.6	35	3.5	30	1327	15.0	4.7	17	6.3	30	1057	17.5	15.4	08	9.0	3	1020	8.0	-2.3	27																				
850	30	704	10.3	-7.8	30	1.0	28	1.554	6.2	1.2	10.07	6.4	2.9	20	6.0	1.95	14.8	07	8.9	6	1.60	6.5	27	8.1																									
800	30	709	10.6	-9.8	30	3.2	28	2.002	5.4	-11.2	13	6.9	2.018	3.5	-5.5	22	6.30	20.57	12.6	5	09	7.4	3	1.645	3.2	-2.7	28																						
750	30	526	6.7	-12.4	5	4.8	28	2.528	3.3	-14.3	32	7.9	3.255	13.6	-1.5	23	6.2	30	25.97	10.4	-1.5	09	6.1	3	2.006	0.0	-1.2	27																					
700	30	508	0.0	-15.3	5	7.1	26	3.085	1.3	-16.4	31	10.1	3.0	3.127	7.7	-1.5	25	6.3	30	31.19	7.9	-0.3	08	4.9	6	3.007	-2.3	-15.1	27																				
650	30	368	-8	-18.5	5	9.3	28	3.677	-7.0	-19.3	30	12.0	3.0	3.732	3.1	-15.5	26	6.8	30	37.777	5.0	-11.2	27	4.1	3	3.643	-5.2	-19.0	27																				
600	30	318	-8	-21.0	5	11.0	28	4.0	-6.0	-22.5	30	13.4	3.0	4.0	1.1	-18.7	26	9.1	30	41.1	1.5	-2.0	27	4.1	3	3.643	-5.2	-19.0	27																				
550	30	297	-9.1	-20.8	5	13.4	28	4.966	-1.0	-26.0	29	15.2	3.0	5.062	-6.5	-22.9	27	11.0	30	5.721	-2.0	-20.0	25	3.0	3	4.265	-13.5	-25.0	27																				
500	30	276	-10.5	-30.0	5	15.6	28	5.713	-15.3	-30.4	29	16.7	3.0	5.779	-2.0	-27.2	26	13.2	30	5.869	-7.5	-25.3	27	3.2	3	5.624	-18.5	-29.6	24																				
450	28	522	-20.1	-33.7	6	17.2	28	6.500	-21.2	-35.2	29	18.4	3.0	6.590	-17.9	-31.8	26	15.2	30	6.682	-12.6	-28.9	26	4.5	3	6.352	-23.5	-32.4	26																				
400	28	384	-20.7	-40.6	6	19.4	27	7.339	-28.1	-40.3	29	20.7	3.0	7.465	-24.3	-37.9	26	17.7	30	7.509	-19.2	-35.0	24	4.9	3	7.624	-29.3	-41.5	26																				
350	28	303	-30.0	-40.5	6	22.2	27	8.336	-35.4	-46.3	28	22.6	3.0	8.428	-31.3	-42.1	26	16.6	30	8.552	-26.4	-40.9	24	6.9	3	8.227	-30.4	-45.4	27																				
300	28	260	-30.0	-51.7	6	24.2	27	9.393	-42.4	-49.9	28	24.6	3.0	9.495	-38.4	-47.8	26	14.2	30	9.646	-28.4	-48.1	24	8.9	3	9.273	-37.4	-47.7	27																				
250	27	224	-60.0		6	27.3	27	10.577	-46.5		28	26.1	3.0	10.721	-49.1		26	7.7	30	10.894	-43.6		30	15.1	3	10.476	-52.4		27																				
200	27	224	-60.0		6	28.1	27	11.771	-47.3		28	25.3	3.0	12.151	-49.3		26	32.4	30	12.360	-54.1		30	18.8	3	11.877	-58.9		28																				
170	26	1852	-61.2		6	28.3	27	12.757	-61.6		28	23.3	3.0	12.980	-62.4		26	33.1	30	13.205	-60.0		30	17.8	3	12.731	-60.4		28																				
150	26	1805	-61.7		6	25.2	26	13.753	-61.0		28	21.0	3.0	13.928	-63.9		26	18.7	27	14.161	-64.2		30	16.9	3	13.927	-60.3		28																				
130	26	14931	-63.3		6	22.0	26	14.982	-61.9		27	18.3	3.0	15.040	-66.0		26	28.7	27	15.230	-72.0		30	13.9	3	14.829	-60.4		28																				
100	25	10429	-65.0		6	18.5	25	16.257	-62.8		26	14.2	2.9	16.367	-69.0		26	14.2	26	16.558	-68.0		30	14.4	3	16.737	-65.0		28																				
80	24	10555	-65.4		6	10.9	25	17.626	-62.8		27	10.7	2.9	17.713	-71.4		26	4.0	24	17.806	-79.5		33	3.2	2	17.859	-61.4		28																				
70	24	10660	-65.4		6	6.5	24	18.452	-61.9		28	6.2	2.7	18.497	-70.5		29	8.7	23	18.570	-76.6		30	2.5	2	18.419	-61.8		28																				
60	23	10611	-63.1		6	3.4	24	19.408	-61.9		9	3.0	2.6	19.418	-66.1		5	5.0	23	19.469	-71.2		35	2.7	2	19.376	-60.7		28																				
50	20	2542	-60.6		6	2.0	24	20.544	-59.3		9	2.0	2.0	20.530	-61.4		8	2.3	20	20.567	-64.4		30	3.9	2	20.516	-58.6		29																				
40	21	13943	-57.4		6	2.5	23	21.928	-57.4		9	2.5	2.5	21.928	-57.4		8	2.5	21	21.959	-59.9		30	5.2	2	21.919	-57.1		31																				
30	18	10773	-55.2		6	1.1	24	23.774	-65.5		9	1.0	2.0	23.758	-55.2		8	2.4	22	23.771	-55.2		30	2.5	2	23.758	-55.2		32																				
20	17	10947	-53.4		6	0.8	23	24.942	-54.5		11	2.2	2.1	24.936	-52.4		30	2.6	21	24.942	-52.6		38	4.2	2	24.933	-53.4		31																				
10	17	109355	-50.4		6	3.8	23	26.383	-51.5		31	2.1	1.9	26.393	-49.4		30	5.4	19	26.397	-50.0		38	10.7	2	26.382	-47.6		31																				
15	14	109263	-47.7		6	7	20	28.258	-48.8		27	3.4	1.5	28.287	-47.1		28	6.4	18	28.299	-46.6		38	11.3	1	28.282	-47.0		37																				
10	10	93962	-40.7		6	17	30.954	-43.2		28	13.1	9	30.955	-42.3		28	13	31.033	-40.9		39	9.3	7	30.986	-44.6																								

SOLAR RADIATION INTENSITIES

Tabulated in langley's per minute on a surface normal to the direction of the sun.

APRIL 1974

Date	Sun's zenith distance							
	A M				P M			
	78.7°	75.7°	70.7°	60.0°	60.0°	70.7°	75.7°	78.7°
ALLIQUET, N. VTS.								
	Air mass							
	4.56	3.65	2.74	1.83	1.83	2.74	3.65	4.56
1-----	1.00	1.09	1.22	---	---	---	---	---
2-----	0.88	0.97	1.08	1.21	1.53	1.33	1.18	1.06
3-----	0.76	0.86	0.97	1.10	1.46	1.29	1.06	0.92
4-----	0.67	0.77	0.87	1.00	1.37	1.23	0.92	0.79
5-----	0.60	0.71	0.81	0.94	1.30	1.17	0.84	0.71
6-----	0.54	0.64	0.74	0.87	1.25	1.05	0.77	0.64
7-----	0.49	0.59	0.69	0.82	1.21	1.01	0.73	0.60
8-----	0.44	0.54	0.64	0.77	1.18	0.97	0.69	0.56
9-----	0.40	0.50	0.60	0.73	1.15	0.94	0.66	0.53
10-----	0.36	0.46	0.56	0.69	1.12	0.91	0.63	0.50
11-----	0.33	0.43	0.53	0.66	1.10	0.89	0.61	0.48
12-----	0.30	0.40	0.50	0.63	1.08	0.87	0.59	0.46
13-----	0.28	0.38	0.48	0.61	1.06	0.85	0.57	0.44
14-----	0.26	0.36	0.46	0.59	1.04	0.83	0.55	0.42
15-----	0.24	0.34	0.44	0.57	1.02	0.81	0.53	0.40
16-----	0.22	0.32	0.42	0.55	1.00	0.79	0.51	0.38
17-----	0.20	0.30	0.40	0.53	0.98	0.77	0.49	0.36
18-----	0.18	0.28	0.38	0.51	0.96	0.75	0.47	0.34
19-----	0.16	0.26	0.36	0.49	0.94	0.73	0.45	0.32
20-----	0.14	0.24	0.34	0.47	0.92	0.71	0.43	0.30
21-----	0.12	0.22	0.32	0.45	0.90	0.69	0.41	0.28
22-----	0.10	0.20	0.30	0.43	0.88	0.67	0.39	0.26
23-----	0.09	0.19	0.29	0.41	0.86	0.65	0.37	0.24
24-----	0.08	0.18	0.28	0.39	0.84	0.63	0.35	0.22
25-----	0.07	0.17	0.27	0.37	0.82	0.61	0.33	0.20
26-----	0.06	0.16	0.26	0.35	0.80	0.59	0.31	0.18
27-----	0.05	0.15	0.25	0.33	0.78	0.57	0.29	0.16
28-----	0.04	0.14	0.24	0.31	0.76	0.55	0.27	0.14
29-----	0.03	0.13	0.23	0.29	0.74	0.53	0.25	0.12
30-----	0.02	0.12	0.22	0.27	0.72	0.51	0.23	0.10
Averages	0.82	0.92	1.06	1.24	1.43	1.22	1.06	0.92

MAUNA LOA OBSERVATORY, HAWAII

	Air mass							
	4.69	3.75	2.81	1.88	1.88	2.81	3.75	4.69
1-----	1.20	1.29	1.38	1.49	1.60	---	---	---
2-----	1.14	1.25	1.36	1.49	1.60	---	---	---
3-----	1.22	1.29	1.39	1.50	1.56	---	---	---
4-----	1.24	1.30	1.39	1.50	1.63	---	---	---
5-----	---	---	---	1.50	---	---	---	---
6-----	---	---	---	1.46	---	---	---	---
7-----	---	---	1.31	---	---	---	---	---
8-----	1.14	1.21	1.31	1.44	---	---	---	---
9-----	---	---	1.31	1.42	---	---	---	---
10-----	1.09	1.17	1.28	1.40	---	---	---	---
11-----	---	---	1.34	1.45	---	---	---	---
12-----	---	1.13	1.22	1.36	---	---	---	---
13-----	---	---	1.27	1.40	---	---	---	---
14-----	1.11	1.25	1.36	1.47	---	---	---	---
15-----	1.15	1.24	1.34	1.44	1.58	---	---	---
16-----	---	---	1.33	1.43	---	---	---	---
17-----	1.08	1.17	1.29	1.41	1.56	---	---	1.17
18-----	1.14	1.19	1.30	---	---	1.30	1.21	1.15
19-----	1.13	1.21	1.26	---	---	---	---	---
Averages	1.13	1.23	1.32	1.43	1.59	1.30	1.26	1.13

Date	Sun's zenith distance							
	A M				P M			
	78.7°	75.7°	70.7°	60.0°	60.0°	70.7°	75.7°	78.7°
TUCSON, ARIZ.								
	Air mass							
	4.56	3.65	2.74	1.83	1.83	2.74	3.65	4.56
1-----	---	---	---	1.16	1.30	---	---	---
2-----	---	---	---	1.28	---	1.24	1.06	---
3-----	0.73	0.84	0.97	1.11	1.38	---	1.06	0.94
4-----	0.99	1.08	---	1.35	1.53	1.36	1.19	1.07
5-----	---	---	1.25	1.38	1.56	1.31	1.13	1.01
6-----	0.94	1.05	1.17	1.32	1.49	1.32	1.17	1.05
7-----	0.89	1.00	1.13	1.30	1.48	1.24	1.05	0.96
8-----	0.83	0.96	1.07	1.26	1.37	1.18	1.07	0.91
9-----	---	---	---	---	---	1.25	1.01	0.86
10-----	0.61	0.61	0.61	1.11	1.39	1.17	1.03	0.83
11-----	0.69	0.76	0.90	1.11	1.45	1.23	1.07	0.95
12-----	0.81	0.91	0.97	1.10	1.26	1.47	1.26	1.10
13-----	0.87	0.97	1.10	1.14	1.30	1.48	1.28	1.13
14-----	0.89	1.01	1.14	1.20	1.31	1.50	---	1.04
15-----	0.89	0.97	1.11	1.28	1.47	1.25	1.08	0.96
16-----	0.90	0.98	1.12	1.28	1.48	1.24	1.10	0.97
17-----	---	---	---	---	1.16	1.23	1.08	0.91
18-----	---	---	---	---	1.16	1.23	1.08	0.91
19-----	0.80	0.91	1.06	1.24	1.38	1.16	0.98	0.87
20-----	0.75	0.85	1.01	1.19	1.42	1.16	0.95	0.81
21-----	---	---	1.06	1.21	---	1.15	0.94	0.79
22-----	---	---	---	---	---	---	1.09	0.91
23-----	---	---	---	---	---	---	1.11	0.97
24-----	0.88	0.95	1.10	---	---	1.23	1.06	0.95
25-----	---	---	---	---	1.39	1.13	0.94	0.79
26-----	---	---	---	---	1.16	1.41	1.20	1.03
27-----	0.75	0.84	0.99	1.13	1.35	1.06	0.87	0.72
28-----	0.67	0.79	0.93	---	---	---	---	---
29-----	---	---	---	---	---	---	---	---
30-----	---	---	---	---	---	---	---	---
Averages	0.82	0.92	1.06	1.24	1.43	1.22	1.06	0.93

MADISON, WIS.

	Air mass							
	4.69	3.75	2.81	1.88	1.88	2.81	3.75	4.69
1-----	---	---	---	---	---	---	---	---
2-----	---	---	---	---	---	---	---	---
3-----	---	---	---	---	---	---	---	---
4-----	---	---	---	---	---	---	---	---
5-----	---	---	---	---	---	---	---	---
6-----	---	---	---	---	---	---	---	---
7-----	---	---	---	---	---	---	---	---
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16-----	---	---	---	---	---	---	---	---
17-----	---	---	---	---	---	---	---	---
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26-----	---	---	---	---	---	---	---	---
27-----	---	---	---	---	---	---	---	---
28-----	---	---	---	---	---	---	---	---
29-----	---	---	---	---	---	---	---	---
30-----	---	---	---	---	---	---	---	---
Averages	---	---	---	---	---	---	---	---

OMAHA, NEBR.

	Air mass							
	4.78	3.82	2.87	1.91	1.91	2.87	3.82	4.78
1-----	---	---	---	---	---	---	---	---
2-----	---	---	---	---	---	---	---	---
3-----	---	---	---	---	---	---	---	---
4-----	---	---	---	---	---	---	---	---
5-----	---	---	---	---	---	---	---	---
6-----	---	---	---	---	---	---	---	---
7-----	---	---	---	---	---	---	---	---
8-----	---	---	---	---	---	---	---	---
9-----	---	---	---	---	---	---	---	---
10-----	---	---	---	---	---	---	---	---
11-----	---	---	---	---	---	---	---	---
12-----	---	---	---	---	---	---	---	---
13-----	---	---	---	---	---	---	---	---
14-----	---	---	---	---	---	---	---	---
15-----	---	---	---	---	---	---	---	---
16-----	---	---	---	---	---	---	---	---
17-----	---	---	---	---	---	---	---	---
18-----	---	---	---	---	---	---	---	---
19-----	---	---	---	---	---	---	---	---
20-----	---	---	---	---	---	---	---	---
21-----	---	---	---	---	---	---	---	---
22-----	---	---	---	---	---	---	---	---
23-----	---	---	---	---	---	---	---	---
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27-----	---	---	---	---	---	---	---	---
28-----	---	---	---	---	---	---	---	---
29-----	---	---	---	---	---	---	---	---
30-----	---	---	---	---	---	---	---	---
Averages	---	---	---	---	---	---	---	---

NO DATA RECEIVED

NET RADIATION

APRIL 1971

Net radiation in langbeys per day (8 a.m. to 8 a.m.) at Palmer, Alaska.

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Ask.
Langbeys	139	74	147	76	145	93	123	123	97	120	77	100	141	60	137	117	157	167	156	135	172	80	50	102	203	214	188	198	222	214	164	

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average ($\times 3600 \text{ Å}$) at Ames, Iowa

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Ask.
Langbeys																																

TOTAL OZONE DATA

These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the form of a table.

Station: Villavieja

Station	Day of month																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	

REFERENCE NOTES

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES:

Dates in the table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations.)

- + And also on an earlier date or dates.
- D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch of water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA - METRIC UNITS: Data from airport unless otherwise specified.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

- B Number of days maximum 21.1°C. or above for Alaskan Stations.
- Y Peak Gust.
- + And also on an earlier date or dates.
- U Indicates Urban site.
- R Indicates Rural site.
- Ø Station pressures apply to elevations shown in the "Elevations" table of the annual issue of this publication.

Conversion formulae to English Units are as follows:

- 1 foot = 0.3048 meters
- F. = $\frac{9}{5} \times C + 32$
- 1 inch = 25.4 millimeters
- 1 mile per hour = 0.447 meters per second

HEATING DEGREE DAYS: Data from airport unless otherwise specified.

- U Indicates Urban site.
- R Indicates Rural site.

COOLING DEGREE DAYS: Data from airport unless otherwise specified.

- U Indicates Urban site.
- R Indicates Rural site.

STORM SUMMARY:

- ° Includes crop damage.
- C Crop damage.
- * No occurrence of storms or unusual weather phenomena reported.
- ! Includes heavy sleet storm.
- # Freezing drizzle and freezing rain, commonly known as glaze.
- Ø For breakdown of "All Others," and for detailed listing of other storms, see the Environmental Data Service, NOAA, monthly publication STORM DATA.
- ± No Storm Data Report received for this State.
- <> Report Incomplete.
- + Storm damages are placed in categories varying from 1 to 9 as follows:
 - 1 Less than \$50
 - 2 \$50 to \$500
 - 3 \$500 to \$5,000
 - 4 \$5,000 to \$50,000
 - 5 \$50,000 to \$500,000
 - 6 \$500,000 to \$5 Million
 - 7 \$5 Million to \$50 Million
 - 8 \$50 Million to \$500 Million
 - 9 \$500 Million to \$5 Billion.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS:

- 1 Flooding continued at the end of the month.
- NA Not available.

FLOOD STAGE DATA:

- # Highest Stage Observed
- 1/ Continued at end of month
- Highest Stage of Record
- E Estimated
- P Provisional (Flood Stage)
- U Unknown

RAWINSONDE DATA (Average Monthly Values):

All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygrometers. These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

- * Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.
- + Observations for these stations are scheduled at 0000 G.C.T.
- † Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

SOLAR RADIATION INTENSITIES: Langley is the unit used to denote one gram-calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

()	Clouds Present	DM	Moderate Dust	HM	Moderate Haze	KS	Slight Smoke
*	Values corresponding to true solar noon	DS	Slight Dust	HS	Slight Haze	M	Moderate Haze-indeter-
BD	Blowing Dust	F	Fog	I	Intense Haze-indeterminable		minable
BN	Blowing Sand	GF	Ground Fog	K	Smoke	N	Sand
D	Dust	H	Haze	KI	Intense Smoke	S	Slight Haze-indeter-
DI	Intense Dust	HI	Intense Haze	KM	Moderate Smoke		minable

NET RADIATION: The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the NOAA, National Weather Service.

SOLAR ULTRA-VIOLET RADIATION DATA: These data are from an U-V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. This instrument has not been checked by the NOAA, National Weather Service.

TOTAL OZONE DATA: The spectrophotometer measures the total amount of ozone in the atmosphere, i.e., the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded $\rho \rho \rho$) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e.g., 350 milli-atmosphere ozone implies an ozone layer 0.350 centimeter thick. The code λ_s designates the type of measurement made.

Chart 1. A. Normal Daily Average Temperature (°F. 1941-70), April.



B. Temperature Departure from 30 - Year Mean (°F 1941-70), April 1974

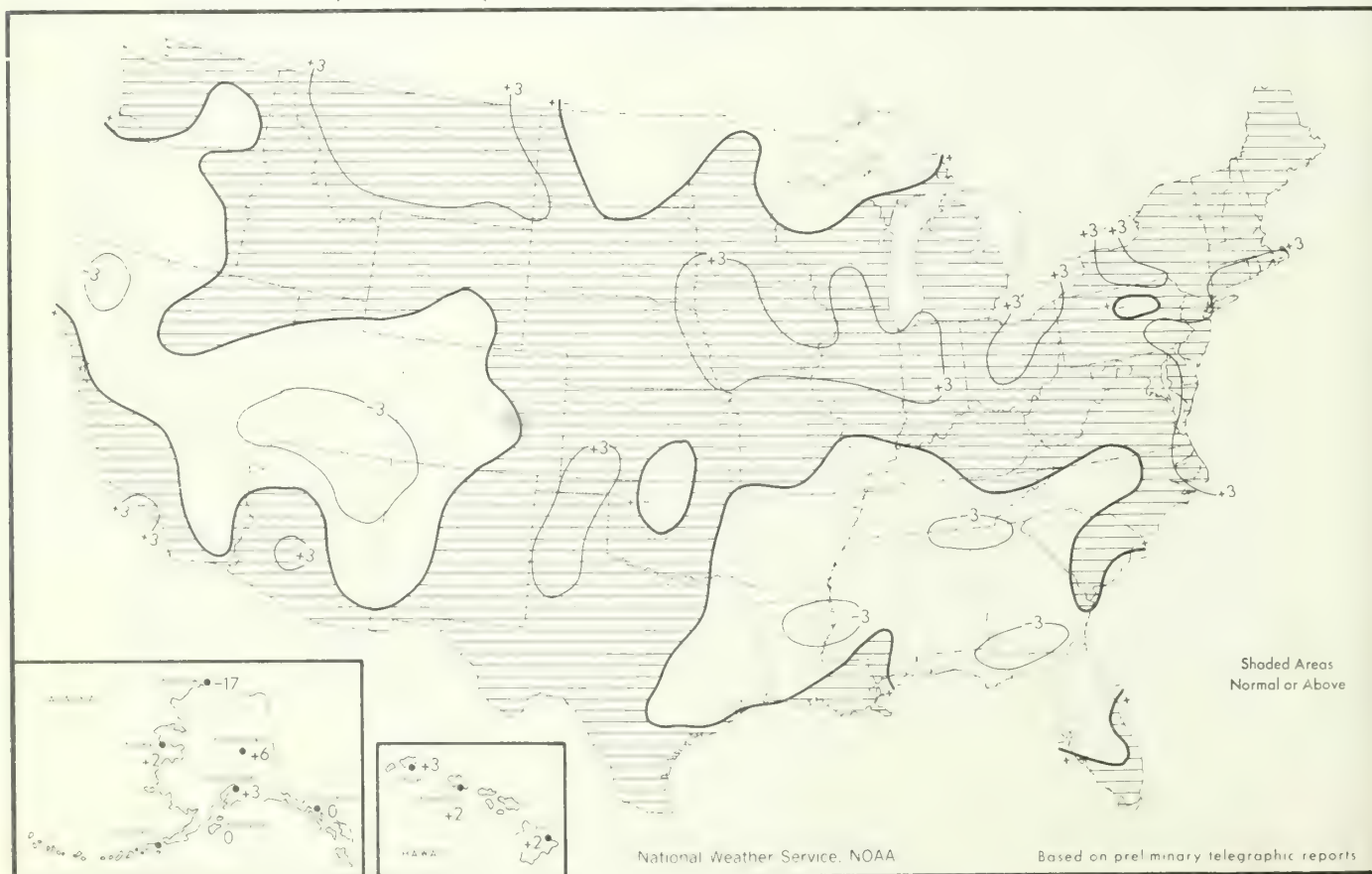
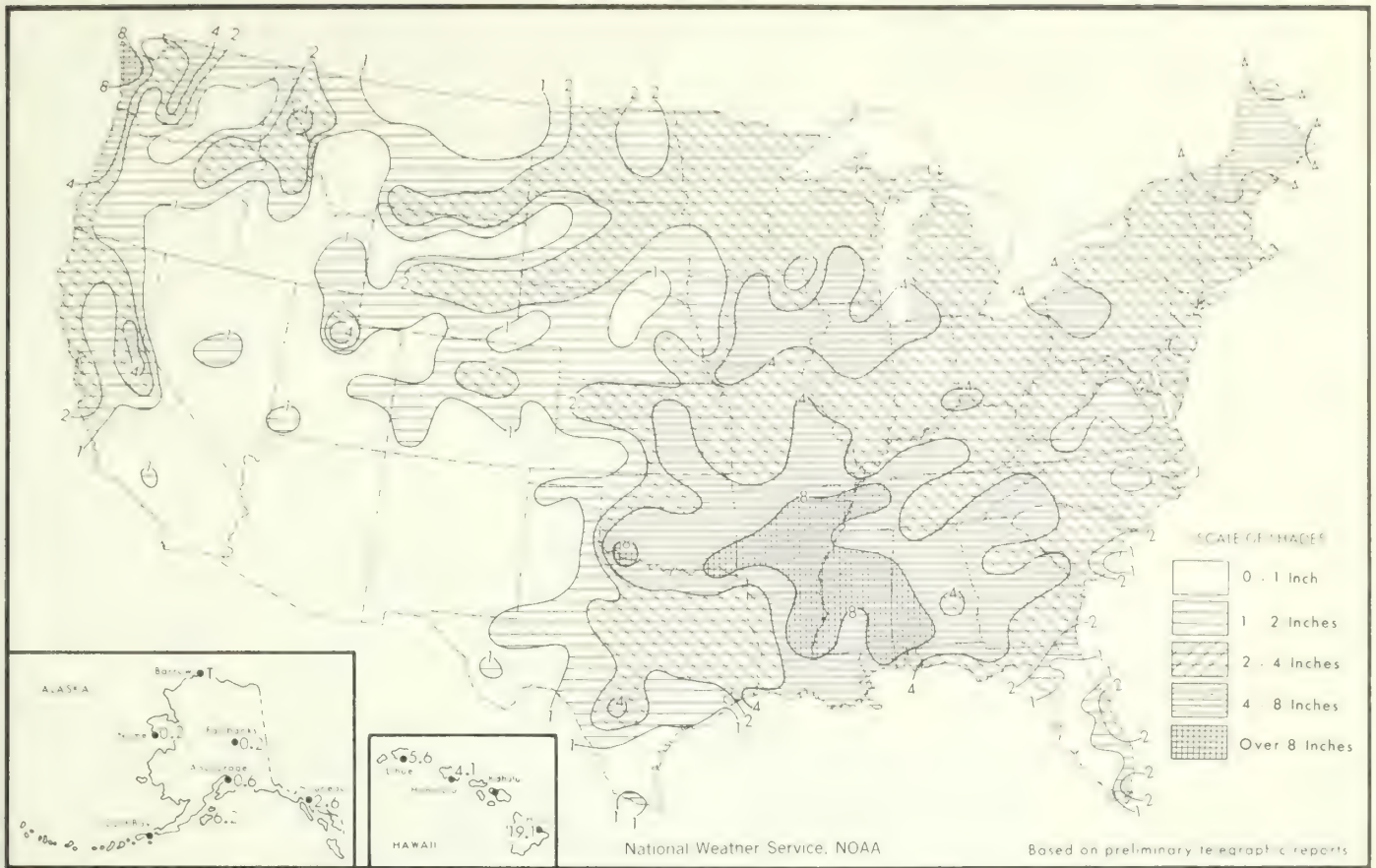


Chart II. A. Total Precipitation (Inches), April 1974



B. Percentage of Normal Precipitation, April 1974

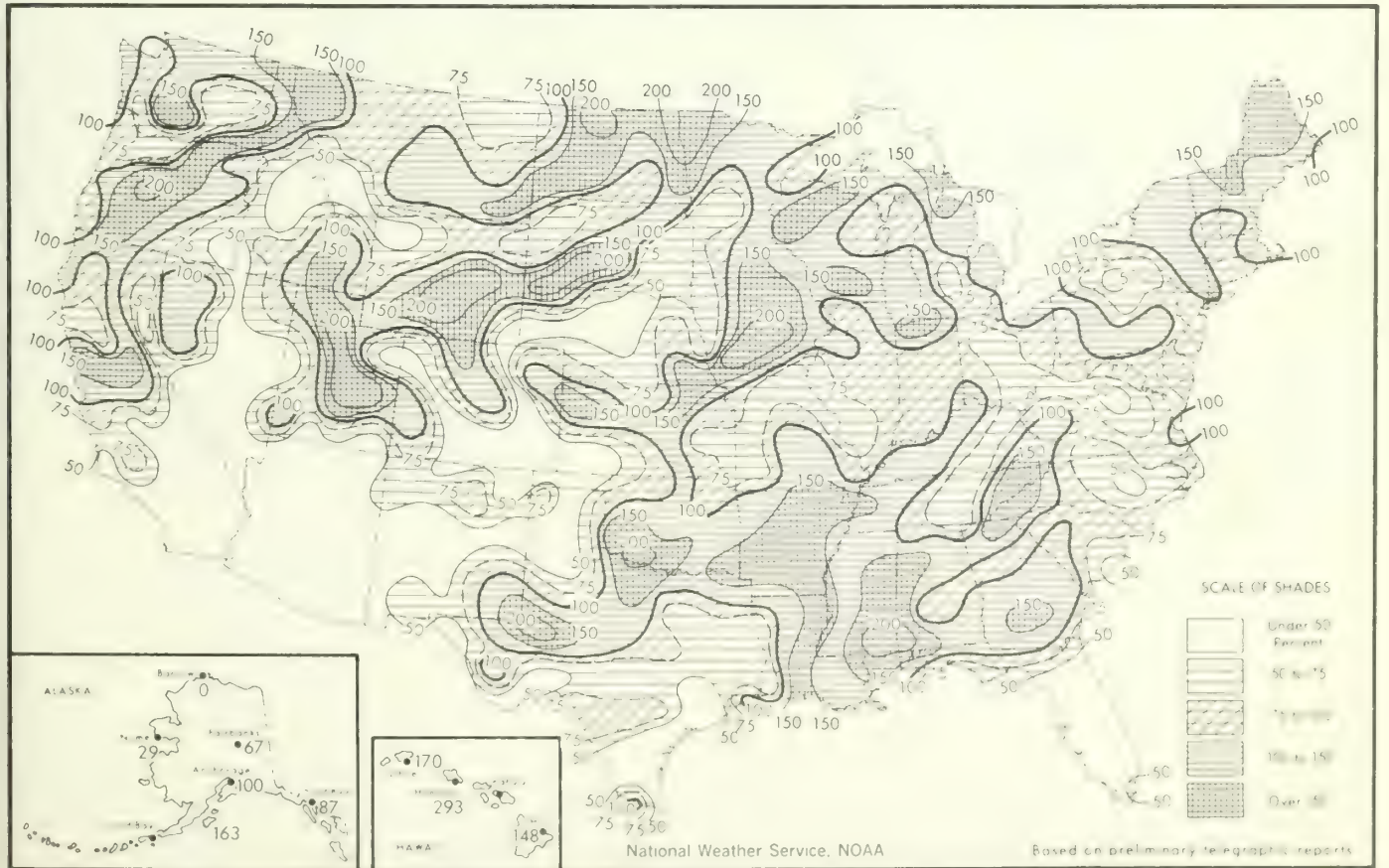
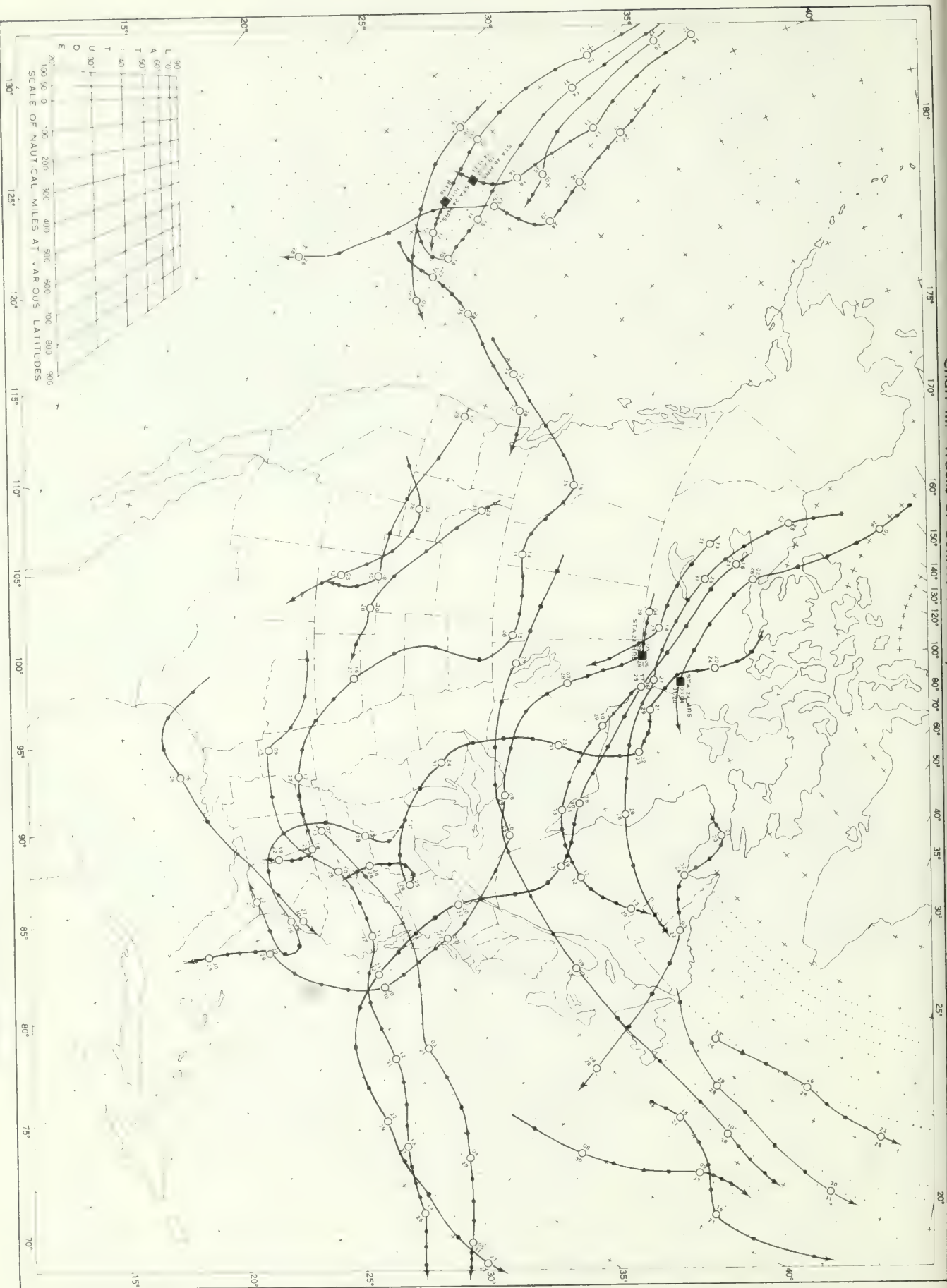


Chart III. Tracks of Centers of Anticyclones at Sea Level, April 1974



This map illustrates the North Pacific Ocean with a grid of latitude (15°N to 40°N) and longitude (120°W to 180°). It features numerous current streamlines, each marked with arrows to show direction and numerical values for speed. The map includes a scale of nautical miles at various latitudes (15°N, 30°N, 40°N) and a legend for current types (L, A, T, U, D, E). The map also shows the coastlines of North America and Asia, and a scale of nautical miles at various latitudes (15°N, 30°N, 40°N).

Legend:

- L 60°
- A 60°
- T 50°
- U 40°
- D 30°
- E 20°

Scale of Nautical Miles at Various Latitudes:

Latitude	100	200	300	400	500	600	700	800	900
15°N	100	200	300	400	500	600	700	800	900
30°N	100	200	300	400	500	600	700	800	900
40°N	100	200	300	400	500	600	700	800	900

This map illustrates the North Pacific Ocean with a grid of latitude and longitude lines. Latitude ranges from 20°N to 40°N, and longitude ranges from 70°W to 180°. A scale of nautical miles is provided at the bottom, ranging from 0 to 900 miles. A legend in the top left corner identifies current types: L (Larval), A (Adult), T (Tropical), U (Upwelling), D (Downwelling), and E (Ekman). The map shows numerous curved lines representing ocean currents, with arrows indicating direction. Some currents are labeled with numbers (e.g., 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100). The map also shows the outlines of the North American continent and the Hawaiian Islands.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Environmental Data Service

MAY
1974

Volume 25

No. 5

1e, N. C.

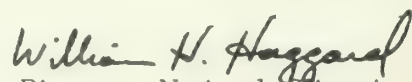
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NOTE: Late reports and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

SUBSCRIPTION PRICE: \$5.00 a year including annual summary; \$1.00 additional for foreign mailing; 40¢ single copy; \$1.00 annual summary. Make Checks payable to Department of Commerce, NOAA; send payments and orders to: National Climatic Center, Federal Building, Asheville, N. C. 28801. Attn: Publications.

I certify that this is an official publication of the National Oceanic and Atmospheric Administration and is compiled from records on file at the National Climatic Center, Asheville, North Carolina 28801.


 Director, National Climatic Center

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

MAY 1974

GENERAL SUMMARY OF WEATHER CONDITIONS

Dr. Richard E. Felch, Climatologist

HIGHLIGHTS: A month of extremes with exceptionally dry conditions over the Southwest and in southern Florida while heavy precipitation, beginning at midmonth, drenched the Corn Belt.

Temperatures averaged 3° to 6° above normal in the Southwest and above normal in the Southeast. The northern half of the Country was colder than normal.

The drought in the Southwest generally intensified and spread to the north and east. Virtually no rainfall occurred in New Mexico, Arizona, Colorado, Utah, Nevada, southern Idaho, and California.

TEMPERATURE: Readings averaging nearly 6° above normal intensified the drought situation in the Southwest. The northern half of the Country averaged below normal, although conditions varied widely during the month.

The month began with generally above normal temperatures. Below normal temperatures were confined to the New England area and a narrow, meandering band across the Great Plains. However, by the end of the first decade, the eastern half of the Nation had cooled markedly.

Temperature patterns changed considerably during the following week. The East warmed to well above normal; the western States were much colder. On the morning of the 14th, temperatures were 15° to 25° below seasonal norms over the northern Rockies and Great Plains.

During the week ending the 26th, mild temperatures dominated, except over the Rocky Mountain States and northern Great Plains, and over New England. Unseasonably cold weather spread from the northern Rockies through the southern Plateau on the morning

of the 20th. The lowest temperatures ever for so late in the season were recorded at several locations: Tucson, Ariz., 44°; Winslow, Ariz., 31°; and on the 21st Grand Junction, Colo., 33°.

The month ended with East Coast temperatures well below normal, but well above norms west of the line from central Texas to Nebraska. Wichita, Kans., recorded 96° on the 28th. Warm and very humid weather covered the Southeast as readings reached in the high 80's and low 90's.

PRECIPITATION: From the eastern Rockies westward, extremely dry conditions persisted. Precipitation was generally above normal to the east. Moisture across the Corn Belt was almost twice the normal, most of it coming after the 10th.

The first week was generally dry. The only band of exceptionally heavy precipitation was in central Texas up through Oklahoma. Over 5 inches fell along the Texas-Oklahoma border.

During the week ending on the 12th, heavy precipitation fell in parts of Texas, the Gulf Coast and parts of Ohio, Pennsylvania, and West Virginia. Some totals were: Akron, Ohio, 2.46 inches Syracuse, N. Y., 2.49; parts of south-central Texas, over 8.50. Tornadoes struck in several areas; Kile, Garfield, and Lake Thomas, Texas; Hillsdale, Mich.; and Glenville and Savannah, Ga.

From 2 to over 11 inches drenched the Corn Belt during the following week. Locally heavy amounts included: Edgerton, Mo., 11.10 inches, Des Moines, Ia., 3.73 and Peoria, Ill., 2.93.

The final decade remained dry in the West, but heavy precipitation continued in the southern States, the northern Plains and parts of the Corn Belt.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

MAY 1974

STATE	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest °F	Date	Station	Lowest °F	Date	Station	Greatest In.	Station	Least In.
Alabama	Enterprise	99	29	Waterloo	34	7	Redstone Arsenal	10.49	Enterprise	1.10
Alaska	2 Stations	82	30	Barter Island WSO AP	-11	1	Little Port Walter	16.08	8 Stations	.00
Arizona	Gila Bend	115	26	Sunrise Mountain	9	20	Kingman 2	.25	131 Stations	.00
Arkansas	Dermott 3 NE	95	27	Gilbert	40	7	Helena	14.12	Fort Smith WSO AP	1.93
California	Death Valley	116	26	White Mountain 1	0	20	White Mountain 2	1.83	170 Stations	.00
Colorado	Holly	102	28	Hermit 7 ESE	5	21	Brandon	2.71	22 Stations	.00
Connecticut	Hartford WSO AP	93	17	Coventry	23	5	Round Pond	5.26	Mansfield Hollow Lake	2.60
Delaware	Bridgeville 1 NW	93	17	2 Stations	30	8	Milford 2 WSW	5.62	Middletown 1 WSW	3.22
Florida	2 Stations	98	31	2 Stations	45	7	Perry	9.04	Clearwater	.55
Georgia	Cordele	98	25	2 Stations	34	7	Athens WSO AP	9.73	Sapelo Island	1.38
Hawaii	Keawakapu Beach, Maui	92	21	Mauna Loa Slope Obs., Hawaii	30	3	N. Waialua Ditch, Kauai	22.15	2 Stations	.00
Idaho	2 Stations	92	26	Dixie	8	16	Priest River Exp. Station	3.49	3 Stations	.00
Illinois	91	20	Dec. 2 *	25	6	Morrison	12.78	Cairo WSO CI	3.81	
Indiana	2 Stations	92	20	3 Stations	23	7	Sullivan	12.99	Portland 1 SW	3.58
Iowa	2 Stations	90	28	Elkader 5 SSW	24	6	Williamsburg	12.18	Spencer 1 N	2.38
Kansas	107	29	Elkhart	31	5	Leavenworth	9.26	Saint Peter 3 NE	.16	
Kentucky	Paducah Sewage Plant	96	29	2 Stations	26	7	Greensburg	10.29	Rochester Lock 3	3.42
Louisiana	Shreveport FAA AP	95	19	Ashland 2 S	47	7	Kentwood	17.08	Saint Joseph Exp. Sta.	1.43
Maine	2 Stations	90	16	Clayton Lake 2	15	2	South Andover	6.76	Houlton	3.47
Maryland	Solomons	96	18	Oakland 1 SE	26	8	Oakland 1 SE	7.52	Annapolis USN Academy	2.85
Massachusetts	Taunton	91	17	Chester 2	18	5	Heath	6.35	Boston WSO AP	2.87
Michigan	3 Stations	90	22	Herman	12	7	Dowagiac 1 W	6.05	Cheboygan RR Light Sta.	1.42
Minnesota	Bellevue Falls FAA AP	90	26	Tower 3 S	12	1	Caribou 2 S	6.45	Minn-St. Paul WSO AP	2.08
Mississippi	2 Stations	93	29	Houston 2 NE	41	7	Sledge	15.13	Port Gibson 1 NW	1.73
Missouri	Sikeston Power Plant	90	21	Edgerton	34	15	Edgerton	14.77	Caplinger Mills	2.73
Montana	2 Stations	85	27	Cooke City	7	16	Shonkin 7 S	10.91	Seeley Lake Ranger Sta.	.42
Nebraska	Alma	98	27	Agate 3 E	16	3	Lyons	11.25	Harrisburg 10 NW	.32
Nevada	Sunrise Manor Las Vegas	112	27	Reese River R. S.	9	19	McDermitt 4 S	2.37	28 Stations	.00
New Hampshire	6 Stations	90	16	Mount Washington	2	2	Mount Washington	7.57	Hanover	3.57
New Jersey	Hammonton 2 NW	93	18	4 Stations	26	8	Wertsville	5.54	Tuckerton	2.14
New Mexico	Gal	105	29	Chama	12	20	Hobbs	1.96	34 Stations	.00
New York	New York Laurel Hill	90	17	Old Forge	16	2	Camden 2 NW	7.92	Watertown FAA AP	.90
North Carolina	Oxford 2 SW	95	18	Grandfather Mountain	26	7	Lake Toxaway 2 SW	14.16	Greenville	3.55
North Dakota	Sharon	87	27	Holla 3 SW	20	4	Adams 7 SSW	8.22	Mott	1.86
Ohio	Portsmouth	91	18	Mansfield 6 W	19	7	Ironton	8.16	Kenton	2.50
Oklahoma	Beaver	106	29	3 Stations	38	6	Billings	9.40	Boise City 2 E	.12
Oregon	Owyhee Dam	91	27	Lake 2 N	12	20	Brightwood	7.46	Pelton Dam	T
Pennsylvania	Burnt Cabins 2 NE	93	17	Clarent 4 NW	11	5	2 Stations	7.19	Raymond	1.17
Puerto Rico-V.I.	2 Stations	93	22	Adjuntas Substation, P. R.	49	1	San Sebastian 2 WNW, P.R.	12.45	2 Stations	.00
Rhode Island	Providence WSO AP	91	17	North Scituate 4 W	27	5	Greenville	3.51	Providence WSO AP	2.74
South Carolina	5 Stations	98	31	Grnvlle-Spartbg WSO AP	36	6	Loris 1 S	12.46	Clark Hill Dam	2.88
South Dakota	Interior 3 NE	92	19	2 Stations	20	4	Highmore 1 W	6.70	Ardmore 2 N	.35
Tennessee	Selmer	94	19	Mountain City 2	24	7	Jackson Exp. Station	14.52	Celina	3.66
Texas	Pecos	111	29	Cornudas Service Station	33	21	Matagorda 2	14.90	3 Stations	.00
Utah	2 Stations	101	27	2 Stations	13	21	Pine View Dam	2.33	37 Stations	.00
Vermont	3 Stations	90	16	Mount Mansfield	7	1	Searsburg Station	7.05	Montpelier FAA AP	3.60
Virginia	3 Stations	94	17	Big Meadows	24	8	Partlow 3 WNW	8.60	2 Stations	2.47
Washington	3 Stations	83	26	Rainier Paradise R. S.	19	15	Clearwater	14.98	Ephrata FAA AP	.05
West Virginia	Williamson	95	15	Weston	18	8	Logan 4 N	9.47	Franklin 2 NE	1.87
Wisconsin	3 Stations	89	22	Breed	15	7	Martintown	7.78	Washington Island	1.94
Wyoming	3 Stations	90	28	Kendall	5	16	Alva 5 SE	3.47	Sand Draw	.00

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State and Station	Pressure			Temperature				Precipitation				Wind				No. of days																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	Elevation ground	Station Q	Sea level	Average maximum	Average minimum	Average	Highest		Departure from normal	No. of days		Average relative humidity	Snow, ice pellets		Speed		Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy 8-10	Sky cover, tenths (sunrise to sunset)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
							Date	Lowest		Date	Max 32.2 °C or above		Min 0 °C or lower	Total	Greatest in 24 hours	25 mm or more						With thunderstorms	Total	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm

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State and Station	Pressure		Temperature				Precipitation				Wind			No. of days (sunrise to sunset)																				
	Elevation (ground)	Station Q	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2° or above	Min. 0° or lower	No. of days	Snow, ice pellets		Resultant speed	Resultant direction	Speed	Direction	Date	Fastest mile (1.6 kilometers)												
															Total	Greatest in 24 hours							25 mm. or more	With thunderstorms	Total	Maximum depth on ground								
	m	mb	mb	C	C	C	C	C							mm	mm	mm	m/s		m/s			Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)								
COLORADO																																		
COLORADO SPRINGS	1873	986.8	1008.5	23.9	6.8	15.4	2.3	32.8	28	0.7	1	1	0	0	8	-45	4	4	6	0	0	1.1	15	18.3	0	19	8	17	4	4.4				
DENVER	1610	832.4	1006.9	26.2	6.7	16.4	2.6	33.9	28	0.6	11	2	0	0	40	-66	1	3	1	0	0	1.5	16	15.6	38	10	12	14	5	4.4				
GRAND JUNCTION	1476	847.6	1006.9	27.3	9.3	18.3	1.6	33.3	28	0.6	21	3	0	0	17	-16	1	1	2	0	0	1.1	20	17.0	W	20	14	4	4.3	7.8				
PUEBLO	1428	851.0	1007.1	28.6	8.7	18.7	2.5	36.7	19	0.6	1	8	0	0	30	-30	12	22	4	3	0	0	0.7	13	17.9	N	9	14	12	5	4.3			
CONNECTICUT																																		
BRIDGEPORT	2	1013.9	1014.5	19.1	10.3	14.7	0.1	29.4	17	1.7	5	0	0	0	71	-20	16	12	2	0	0	0.4	22	22.4	34	17	6	13	12	4.4	55			
HARTFORD	52	1007.8	1014.2	20.0	7.3	13.7	-0.9	31.9	17	0.0	8	2	1	0	77	-12	20	13	0	0	0	0.6	24	14.8	NW	1	5	10	16	7.1	55			
WILMINGTON	23	1011.5	1014.4	22.7	11.1	16.9	0.0	33.3	17	2.2	8	1	0	0	101	15	22	13	5	0	0	0.8	26	13.0	31	24	9	9	13	4.2				
DELAWARE																																		
DIST. OF COLUMBIA	98	1002.7	1014.5	22.1	10.2	16.2	-0.8	30.6	17	-1.7	8	0	1	0	96	3	35	13	3	0	0	0.8	23	11.2	31	12	7	10	14	6.5	59			
WASHINGTON D.C.	3	1012.5	1014.8	24.8	12.9	18.4	-0.6	33.3	17	3.9	8	1	0	0	111	18	36	13	4	0	0	0.7	24	14.3	NW	12	10	9	12	5.9	59			
WASHINGTON NATIONAL																																		
FLORIDA																																		
APALACHICOLA	4			28.3	20.8	24.6	0.7	31.1	24	16.1	7	0	0	0	221	150	178	7	5	0	0	1.5	14	10.3	5	11	7	14	10	5.9	7.4			
DAYTONA BEACH	9	1014.6	1016.0	30.1	18.8	24.4	0.6	33.9	26	13.9	2	8	0	0	68	0	24	7	6	0	0	1.0	15	10.3	11	3	16	12	4.8					
FORT MYERS	5	1015.2		32.5	19.6	26.1	0.7	35.0	15	14.4	4	20	0	0	61	-40	32	8	6	0	0	1.5	24	12	6	12	4	11	5.9					
JACKSONVILLE	8	1014.6	1015.7	29.8	17.2	23.5	0.0	33.3	25	10.6	8	5	0	0	105	23	54	8	5	0	0	1.0	18	13.8	W	12	5	13	13	6.3	78			
KEY WEST	1	1014.4	1015.2	29.4	24.5	26.9	-0.3	31.7	29	21.1	2	4	0	0	77	88	24	41	11	5	0	2.8	13	12.1	5	15	10	12	9	5.5	82			
LAKELAND	65			30.6	20.1	25.4	0.4	33.9	31	17.2	8	5	0	0	79	-8	24	13	6	0	0	0	6	18	7	5.7	66							
MIAMI	2	1015.6	1015.9	33.3	23.0	26.7	1.1	33.9	27	17.8	1	2	0	0	67	-89	21	12	6	0	0	2.7	12	12.5	9	20	6	15	10	6.0				
ORLANDO	29	1011.2	1015.0	31.2	18.9	26.6	0.9	35.0	31	15.6	2	8	0	0	68	-6	20	11	12	0	0	0.8	15	11.2	2	8	6	11	14	4.8				
PRINCEGEORGE	14	1010.2	1014.5	28.6	20.7	25.2	1.2	32.8	12	13.9	7	4	0	0	83	-25	31	13	0	0	0	1.7	19	13.0	16	11	7	17	14	6.6				
TAMPAH	16	1015.3	1017.7	31.1	20.3	25.7	-0.2	33.9	25	18.3	1	6	0	0	218	116	90	8	11	0	0	0.6	18	9.4	18	11	14	13	14	6.5	67			
TAMPAHSEAF	3	1015.6	1017.7	31.1	20.3	25.7	-0.2	33.9	25	18.3	1	6	0	0	26	-33	10	5	8	0	0	0.9	22	9.4	16	22	8	14	15	6.2				
WEST PALM BEACH	5	1014.9	1015.6	30.5	21.3	25.9	0.6	33.0	27.4	15.6	1	8	0	0	74	-57	30	9	9	0	0	2.5	13	11.2	18	12	4	15	12	4.2				
GEORGIA																																		
ATHENS	244	986.1	1014.7	27.2	15.1	21.2	0.1	31.7	31	8.3	7	0	0	0	247	145	86	13	10	0	0	0.5	25	13.0	23	4	4	11	16	4.9				
ATLANTA	308	978.0	1014.3	27.4	15.9	21.7	0.1	31.1	31	8.3	7	0	0	0	97	33	33	13	10	0	0	0.9	27	19.7	NW	3	4	13	16	4.7	65			
AUGUSTA	41	1009.1	1014.3	28.9	15.3	22.1	0.1	33.3	19	7.8	7	3	0	0	105	20	44	11	7	0	0	0.6	20	17.4	32	4	4	14	13	4.5				
COLUMBUS	117	1000.7	1014.3	28.9	16.9	22.9	0.4	32.2	31	8.3	8	4	0	0	192	89	87	14	6	0	0	0.4	26	10.3	7	20	7	20	11	5.7				
MACON	108	1002.0	1014.8	29.8	16.7	23.3	0.2	33.3	31	8.9	8	7	0	0	12	108	17	63	8	0	0	0.6	23	12.5	5F	11	5	14	12	4.3	93			
ROME	194														121	22	53	14	10	0	0	1.1	20	14.3	W	12	5	11	15	4.3	60			
SAVANNAH	14	1013.5	1015.4	29.3	17.8	23.6	0.7	33.3	3	10.6	7	4	0	0	184	77	86	12	10	0	0	1.1	20	14.3	W	12	5	11	15	4.3	60			
HAWAII																																		
HONOLULU	8	1016.3	1017.4	27.6	18.9	23.2	0.2	29.4	31	16.7	3	0	0	0	205	-51	38	26	0	0	0	0.6	16	8.0	SF	26	2	11	18	7.6	54			
KAHULUI	15	1016.6	1017.7	28.8	21.4	25.0	0.7	31.1	31	18.9	2	4	0	0	21	-4	14	13	0	0	0	0.4	2	11.2	NF	7	2	18	11	6.7	55			
KAHULUI	31	1013.2	1018.2	27.8	22.1	24.9	0.6	28.9	8	18.9	16	0	0	0	93	31	22	15	2	0	0	4.8	5	10.7	NF	9	1	18	12	5.8	68			
KAHULUI																																		
IDAHO																																		
BONIFACE	865	913.6	1013.2	20.4	5.6	13.0	-1.1	30.0	26	-3.3	13	0	3	0	3	-31	12	3	0	0	0	2.4	31	13.4	NW	12	5	6	12	5.5	90			
LEWISTON	431			19.9	7.1	13.5	-1.0	26.7	5	-2.2	16	0	3	0	33	-21	12	5	3	1	0	4.2	24	20.1	SW	12	8	13	10	5.6	81			
POCATELLO	1358	960.1	1012.0	19.7	3.9	11.8	-0.6	28.9	26	-3.9	16	0	3	0																				
ILLINOIS																																		
CAIRO	96			25.3	16.2	20.7	0.0	33.3	20	9.4	7	2	0	0	97	-35	34	14	6	0	0	0	0	0	7	13.4	SW	29	2	10	19	7.7	57	
CHICAGO	201	988.5	1012.9	18.7	8.9	13.8	-0.7	28.9	21	0.0	7	0	1	0	129	43	32	16	6	0	0	0	0	0	0	7	15.6	27	12	19	7.7			
CHICAGO MIDWAY	195	990.5	1013.2	18.5	9.1	13.8	-1.9	31.1	21	0.0	7	0	1	0	152	65	37	15	8	0	0	0	0	0	0	11	13.9	SW	21	2	12	17	7.5	51
MOLINE	177	991.2	1012.5	19.7	10.0	14.9	-1.3	30.0	21	0.0	10	0	0	0	290	191	65	16	15	0	0	0.4	7	19	20.1	SF	30	3	9	22	7.6	46		
ROCKFORD	223	989.2	1013.1	20.2	10.1	15.2	-1.2	29.4	21	2.8	6	0	0	0	175	159	61	19	12	0	0	0.7	19	15.6	W	12	3	6	22	7.9	24			
SPRINGFIELD	179	980.8	1012.9	18.9	8.4	13.7	-1.2	29.4	21	2.8	6	0	0	0	177	79	72	16	9	0	0	0.4	14	13.9	NF	12	3	7	21	8.0				
SPRINGFIELD	179	980.5	1012.7	21.6	11.3	16.4	-1.6	31.1	20	4.4	7	4	0	0	162	72	38	17	10	0	0	0.8	17	21.5	NE	30	4	6	21	7.7	39			
INDIANA																																		
EVANSVILLE	116	999.7	1013.5	25.1	13.8	19.4	0.7	33.3	20	3.3	7	2	0	0	162	51	50	12	11	0	0	0.8	20	11.6	NE	21	3	11	17	7.2	51			

CLIMATOLOGICAL DATA

METRIC UNITS

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State and Station	Pressure		Temperature						Precipitation				Wind			No. of days (sunrise to sunset)			Possible sunshine (sunrise to sunset)						
	Elevation/ground	Station	Sea level	Average maximum		Average minimum		Departure from normal		Highest	Date	Lowest	Date	No. of days		Show. ice pellets	Resultant speed	Resultant direction		Speed (1.6 kilometers)	Direction	Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10
				C	F	C	F	C	F	C	F	C	F	Max 32.2 °C or above	Min 0 °C or lower										
INDIANA																									
FORT WAYNE	241	984.1	1013.9	20.3	68.6	15.4	-0.9	28.9	21	-1.7	7	0	2	8.9	71	129	31	28	11	5					
INDIANAPOLIS	241	984.8	1013.7	21.7	11.7	16.7	-0.1	30.6	21	-0.6	7	0	1	11.7	75	159	56	33	16	11					
SOUTH BEND	236	985.1	1013.0	19.2	8.9	14.1	-0.6	28.3	21	-1.7	7	0	1	8.3	71	122	42	29	15	6					
IOWA																									
BUFINGTON	211	977.3	1011.9	20.1	10.7	15.4	-1.2	30.0	20	2.8	6	0	0	10.6	70	177	86	28	14	14					
DES MOINES	286	980.0	1012.4	20.5	10.9	15.7	-0.3	30.6	20	2.8	6	0	0	8.9	67	183	76	35	16	13					
SISSON CITY	332	971.9	1011.2	22.7	16.9	12.7	-1.8	27.8	21	-0.4	6	0	1	7.8	58	188	69	52	14	13					
MARSHALL	334	970.9	1011.2	22.7	16.9	16.8	-0.7	31.1	28	-2.2	3	0	0	7.8	58	106	16	24	14	13					
WATFORD	265	980.7	1012.4	18.4	6.2	13.3	-1.6	27.8	21	-2.2	7	0	1	7.8	71	136	39	59	11	9					
KANSAS																									
CONCORDIA	448	957.7	1009.8	24.6	12.1	18.4	1.3	31.1	28	3.9	15	0	0	11.7	48	60	-48	23	10	11					
DOVER CITY	787	919.7	1008.5	27.3	12.4	19.8	2.1	36.1	28	3.3	5	6	3	10.6	59	74	-6	45	6	7					
GOPLAND	1114	883.5	1008.7	24.5	7.8	16.2	1.2	34.4	28	1.1	3	3	3	7.8	63	28	-37	19	6	4					
TOPEKA	267	979.3	1010.8	25.8	13.3	19.6	1.5	33.9	30	4.4	5	3	0	13.3	72	91	-11	25	15	12					
WICHITA	403	962.8	1009.7	26.2	14.1	20.2	1.2	35.6	28	6.1	6	2	0	13.9	49	118	-27	29	10	9					
KENTUCKY																									
COLUMBIA	265	982.7	1014.0	21.9	11.3	16.6	-0.7	29.4	21	-1.1	7	0	1	10.6	70	140	45	30	13	7					
LEXINGTON	294	976.3	1014.6	23.2	11.9	17.6	-0.6	30.0	17	1.1	7	0	0	11.7	69	140	35	32	12	7					
LOUISVILLE	145	995.9	1013.6	23.4	13.4	18.4	-0.2	30.0	18	3.9	7	0	0	11.7	66	98	-9	32	10	8					
LOUISIANA																									
ALBUQUERQUE	28	1008.3	1012.8	20.4	18.6	24.0	1.6	32.8	20	10.6	7	8	0	18.9	78	153	11	69	8	7					
BATON ROUGE	21	1013.8	1013.5	30.1	15.8	24.9	1.2	32.8	25	19.9	7	5	0	18.3	70	193	21	42	10	4					
BOZEMAN	3	1011.6	1012.4	28.6	20.7	26.4	0.4	31.1	25	13.9	8	0	0	20.0	78	200	131	77	12	8					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4	32.8	29	10.0	7	2	0	20.5	77	200	143	77	9	5					
CHICAGO	177	1013.4	1013.4	28.9	18.7	26.3	0.4>																		

1974

[illegible]

MAY 1976

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CLIMATOLOGICAL DATA

METRIC UNITS

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State and Station	Elevation (ground)	Pressure		Temperature						Precipitation					Wind				No. of days (sunrise to sunset)		Possible sunshine (sunrise to sunset)												
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days		Average relative humidity	Total	mm	Departure from normal	Greatest in 24 hours	No. of days	Snow, on ground		Resultant speed	Resultant direction	Fastest mile (1.6 kilometers)	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)			
												Max 32.2 °C or above	Min. 0 °C or lower							With thunderstorms											Maximum depth	Ice pellets	
SOUTH CAROLINA	12	1013.2	1015.1	28.9	17.7	23.3	1.1	35.6	31	11.7	6	5	0	17.2	72	122	26	50	8	7	0	0	1.8	19	23.2	W	26.4	4	11	16	6.8	80	
	CHARLESTON	203	990.2	1014.6	25.2	12.3	18.8	1.5	30.0	30.4	2.2	8	0	14.4	77	220	136	42	20	7	0	0	0.7	28	11	10	17	7.0	59				
	CHARLESTON U	57.2	1006.8	1014.8	20.2	17.2	33.7	1.4	32.2	30.4	10.0	7	0	13.3	81	197	196	85	17	7	0	0	0.2	25	10.3	W	31	2	12	17	7.5	53	
	COLUMBIA	65	1006.8	1014.8	20.2	17.2	33.7	1.4	32.2	30.4	10.0	7	0	13.3	81	197	196	85	17	7	0	0	0.2	25	10.3	W	31	2	12	17	7.5	53	
	GRANVILLE-SPRING	292	980.4	1014.5	26.1	13.9	20.0	-0.6	32.2	18	2.2	6	1	14.4	74	138	64	34	14	7	0	0	0.5	22	9.4	NW	19	4	12	15	6.8	56	
SOUTH DAKOTA	395	964.1	1010.9	17.9	6.4	12.2	1.0	28.9	20	-3.3	3	0	5	5.6	66	96	30	40	16	8	0	0	0.5	6	13.9	SW	11	1	10	20	8.0	48	
	ARNDT	390	964.1	1010.6	18.9	5.7	12.3	1.6	29.4	20	-2.2	3	0	5	7.8	75	108	38	32	18	8	0	0.4	15	19.2	NW	11	3	12	16	7.2	48	
	HURON	964	900.8	1010.9	20.1	4.2	12.1	0.8	28.3	27	-1.1	10.4	6	3.3	59	34	-38	10	16	5	0	2.1	34	17.4	NW	31	5	10	16	6.9	55		
	STOUT FALLS	432	960.7	1011.9	19.5	6.8	13.2	1.1	30.0	20	-1.7	3	0	6.7	68	79	-7	25	12	9	0	0.3	11	16.5	NW	11	3	13	15	7.2	48		
TENNESSEE	459	961.4	1014.9	23.5	12.4	17.9	-0.3	30.0	14	3.9	8.4	0	12.8	77	220	136	42	20	7	0	0	0.7	28	11	10	17	7.0	59					
	REISTOL	203	990.2	1014.6	25.2	12.3	18.8	1.5	30.0	30.4	2.2	8	0	14.4	77	220	136	42	20	7	0	0	0.7	28	11	10	17	7.0	59				
	CHATTANOOGA	299	980.0	1014.5	26.9	14.8	20.1	0.2	31.1	19	6.1	7	0	13.3	81	197	196	85	17	7	0	0	0.2	25	10.3	W	31	2	12	17	7.5	53	
	KNOXVILLE	79	1003.1	1013.3	26.9	17.6	22.3	0	32.2	30.4	10.0	7	0	13.3	81	197	196	85	17	7	0	0	0.7	28	11	10	17	7.0	59				
	MEMPHIS	180	992.6	1013.9	26.6	15.7	21.1	0.8	32.8	30.4	6.1	7	2	0	15.6	74	128	24	66	13	6	0	0.8	19	13.0	SW	2	4	14	6.9	52		
TEXAS	276	947.5	1008.7	17.9	24.4	2.0	36.7	29.4	8.3	6	15	0	15.6	63	18	-80	15	3	3	0	0	4.2	18	14.8	S	13	13	12	6	4.5	82		
	ARLINGTON	564	947.5	1008.7	17.9	24.4	2.0	36.7	29.4	8.3	6	15	0	15.6	63	18	-80	15	3	3	0	0	4.2	18	14.8	S	13	13	12	6	4.5	82	
	AMARILLO	1098	886.6	1006.6	29.9	14.0	21.9	3.3	37.2	28.4	7.8	6	15	0	5.6	44	103	31	67	6	6	0	3.0	19	19.7	S	17	12	12	7	4.7	85	
	AUSTIN	182	989.2	1010.6	30.4	20.3	25.4	1.4	33.9	29	16.1	6	10	0	19.4	75	149	49	85	8	7	0	2.2	16	18.4	SE	14	6	16	9	5.7	65	
	BROWNSVILLE	6	1009.1	1009.9	31.9	23.2	27.6	1.3	38.9	11	20.0	20.4	0	22.8	79	108	27	50	8	6	0	0	4.3	13	24.1	SE	14	6	16	9	6.1	65	
UTAH	580	943.4	1008.3	31.1	17.7	24.4	0.8	34.4	29.4	10.6	6	15	0	13.9	75	109	31	40	9	6	0	2.7	19	24.6	SE	14	6	16	9	5.7	74		
	SAN ANGELO	240	983.1	1014.5	30.6	19.7	25.2	0.7	34.4	26	17.2	6	12	0	21.1	76	283	183	172	8	3	0	2.6	14	17.9	N	5	3	18	10	4.1	59	
	VICTORIA	153	992.9	1010.6	31.0	21.7	26.4	1.6	34.4	26	17.2	6	12	0	18.3	71	56	-61	38	6	3	0	3.5	16	14.3	N	5	3	18	10	4.1	59	
	WACO	303	973.6	1009.2	31.9	17.2	24.6	2.2	39.4	29	10.0	6	17	0	17.8	69	46	-70	32	5	5	0	3.7	15	16.5	S	18	13	15	9	4.1	41	
	WICHITA FALLS	303	973.6	1009.2	31.9	17.2	24.6	2.2	39.4	29	10.0	6	17	0	17.8	69	46	-70	32	5	5	0	3.7	15	16.5	S	18	13	15	9	4.1	41	
VERMONT	1533	842.5	1009.9	25.6	4.8	15.2	1.6	33.3	27	-3.9	21.4	0	1.7	44	10	-28	9	3	1	0	0	0.8	35	17.9	SW	12	16	12	3	3.7	85		
	WILFORD	1286	866.9	1009.8	23.7	10.8	17.3	1.3	33.9	27	3.9	21.4	0	1.7	44	10	-28	9	3	1	0	0	0.8	35	17.9	SW	12	16	12	3	3.7	85	
	WINDHAM	101	1001.4	1013.8	15.7	5.7	10.7	-1.9	29.4	15	-2.9	5	0	5.0	69	117	41	26	21	1	0	0	0.8	19	20.1	NW	1	4	7	20	7.7	34	
	BURLINGTON	101	1001.4	1013.8	15.7	5.7	10.7	-1.9	29.4	15	-2.9	5	0	5.0	69	117	41	26	21	1	0	0	0.8	19	20.1	NW	1	4	7	20	7.7	34	
	VERMONT	101	1001.4	1013.8	15.7	5.7	10.7	-1.9	29.4	15	-2.9	5	0	5.0	69	117	41	26	21	1	0	0	0.8	19	20.1	NW	1	4	7	20	7.7	34	
WASHINGTON	279	981.4	1015.2	24.2	14.4	19.3	0.1	31.1	17	5.6	8	1	0	13.3	72	123	42	33	12	5	0	0	0.2	18	8.9	N	31.4	7	9	15	4.4	61	
	LYNCHBURG	7	1014.2	1015.2	24.2	14.4	19.3	0.1	31.1	17	5.6	8	1	0	13.3	72	123	42	33	12	5	0	0	0.2	18	8.9	N	31.4	7	9	15	4.4	61
	NORFOLK	50	1008.5	1014.9	24.6	12.9	18.8	-0.4	34.2	17	2.8	8	1	0	12.8	69	77	-10	24	2	0	0	0.3	20	13.0	SW	12	6	7	18	4.6	63	
	RICHMOND	350	973.2	1014.9	20.5	13.2	17.9	-0.4	32.2	17	1.7	8.4	0	11.1	67	96	-7	30	16	6	0	0	0.9	27	17.0	S	12	6	11	14	6.5	63	
	WALLOPS ISLAND	3	973.2	1014.9	20.5	13.2	17.9	-0.4	32.2	17	1.7	8.4	0	11.1	67	96	-7	30	16	6	0	0	0.9	27	17.0	S	12	6	11	14	6.5	63	
WASHINGTON	59	1010.8	1018.0	16.7	5.3	11.0	1.2	23.3	4	0.6	17	0	0	5.6	71	67	20	16	15	2	0	0	2.2	22	9.8	SW	11	1	9	21	8.3	33	
	OLYMPIA	55	1010.8	1018.3	13.7	4.3	9.0	-1.6	20.6	31	0	1	0	6.7	84	316	197	82	18	0	0	1.1	22	10.7	SW	11	1	9	21	8.4	33		
	QUILLAYUTE	16	1011.7	1018.0	16.2	8.0	12.1	-1.7	20.6	31	5.0	13.4	0	0	5.6	65	38	1	9	13	0	0	2.0	20	14.3	SW	11	1	9	21	8.4	33	
	SEATTLE	122	1001.7	1018.0	16.9	8.5	12.7	0	23.2	31	3.9	13	0	0	5.6	65	38	1	9	13	0	0	2.0	20	14.3	SW	11	1	9	21	8.4	33	
	SEATTLE-TACOMA	178	1001.7	1018.0	16.9	8.5	12.7	0	23.2	31	3.9	13	0	0	5.6	65	38	1	9	13	0	0	2.0	20	14.3	SW	11	1	9	21	8.4	33	
WASHINGTON	718	930.2	1014.2	16.2	3.9	10.1	2.5	23.9	5	-1.7	2	0	3	2.2	63	147	41	27	22	2	10	0	3.2	21	13.0	SW	11	2	12	7.6	62		
	STAMPEDE PASS	1206	878.8	1014.2	6.1	0.2	3.2	-3.0	16.7	4	-3.3	13	0	16	65	36	-11	7	18	2	3	0	3.2	21	13.0	SW	11	3	12	7.6	62		

CLIMATOLOGICAL DATA

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State and Station	Elevation (ground)	Pressure		Temperature										Precipitation					Wind				No. of days (sunrise to sunset)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
		Station Q	Sea level	Average maximum		Average minimum		Average		Departure from normal		Highest	Date	Lowest	Date	No of days		Snow, ice pellets			Fastest mile (1.6 kilometers)		No. of days (sunrise to sunset)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
				C	F	C	F	C	F	C	F	C	F	C	F	Max 32.2 °C or above	Min. 0 °C or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
WASHINGTON	289	mb	mb	20.0	8.8	14.4	-1.3	27.8	5	3.9	17+	0	0	1.7	50	10	-30	6	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0</

HEATING DEGREE DAYS

(Base 65°F.)

MAY 1974

State and station	Current season		Normals July through this month	State and station	Current season		Normals July through this month	State and station	Current season		Normals July through this month	State and station	Current season		Normals July through this month
	This month	Period July through this month			This month	Period July through this month			This month	Period July through this month			This month	Period July through this month	
ALABAMA				IDAHO				NEBRASKA				TENNESSEE			
BIRMINGHAM	9	2158	2844	BOISE	304	5281	5736	GRAND ISLAND	91	6116	6384	BRISTOL	84	3475	4298
HUNTSVILLE	11	2524	3382	LEWISTON	248	5117	5380	LINCOLN	139	6205	6194	CHATTANOOGA	65	2955	3505
MOBILE	0	1037	1684	POCATELLO	359	6745	6925	NORFOLK	147	6465	6944	KNOXVILLE	41	2874	3478
MONTGOMERY	0	1643	2269					NORTH PLATTE	190	6625	6678	MEMPHIS	1	2504	3227
ALASKA				ILLINOIS				OMAHA	140	5999	6029	NASHVILLE	28	2978	3696
ANCHORAGE	526	10944	10599	CAIRO U	28	3453	3833	SCOTTSBLUFF	230	6628	6683	OAK RIDGE R	65	3193	3944
ANNETTE	544	7549	6735	CHICAGO O HARE	266	5889	6452	VALENTINE	243	6779	7227	TEXAS			
BARROW	1449	19032	19305	CHICAGO MIDWAY	272	5906	6101	NEVADA				ABILENE	7	2185	2610
BARTER ISLAND	1480	19388	19067	MOLINE	235	6149	6375	ELKO	182	6498	7293	AMARILLO	17	3573	4173
BETHEL	603	12574	12801	PEORIA	214	5796	6081	ELY	373	7347	7573	AUSTIN	0	1376	1737
BETTES	540	14071	15655	ROCKFORD	277	6474	6810	LAS VEGAS	13	2431	2601	BROWNSVILLE	0	483	650
BIG DELTA	539	14290	13441	SPRINGFIELD	167	5165	5546	RENO	310	5559	5877	CORPUS CHRISTI	0	768	936
COLD BAY	725	9438	9277	INDIANA				WINNEMCCA	263	5725	6480	DALLAS FT WORTH	1	1980	2382
FAIRBANKS	414	14203	14134	EVANSVILLE	71	3944	4624	NEW HAMPSHIRE	432	7356	7302	DEL RIO	0	1104	1523
GULFANA	686	10343	9875	FORT WAYNE	238	5898	6186	CONCORD	1096	13176	13269	EL PASO	5	2481	2678
HOMER	556	9499	8643	INDIANAPOLIS	158	4857	5566	MT WASHINGTON OBS				GALVESTON U	0	776	1274
JUNEAU	595	11033	11153	SOUTH BEND	250	5609	6427	NEW JERSEY				HOUSTON INTERCON	0	1434	1628
KODIAK	672	9045	8401	IOWA				ATLANTIC CITY	184	4419	4977	LIBBCK	11	2796	3545
KOTZEBUE	1074	15870	15394	BURLINGTON	203	5820	6133	ATLANTIC CITY U	173	4262	4678	MIDLAND	1	2135	2621
MC GRATH	537	14618	14202	DES MOINES	189	4087	4484	NEWARK	127	4741	5034	PORT ARTHUR	0	1177	1518
NOME	823	14042	13740	DUBUQUE	327	7063	7278	TRENTON U	164	4347	4947	SAN ANGELO	1	1755	2240
ST. PAUL ISLAND	914	15574	10396	SIOUX CITY	126	6246	6920					SAN ANTONIO	0	1287	1570
SUMMIT	732	14423	13888	WATERLOO	296	7118	7376	NEW MEXICO				VICTORIA	0	860	1227
TALKEETNA	510	11979	11601	KANSAS				ALBUQUERQUE	29	4235	4292	WACO	0	1724	2058
UNALAKLEET	696	15492	13532	CONCORDIA	86	5286	5601	CLAYTON	70	4624	5169	WICHITA FALLS	1	2392	2904
YAKUTAT	652	9642	9074	DODGE CITY	40	4614	5025	ROSWELL	11	3026	3697	UTAH			
ARIZONA				GOODLAND	148	5842	6064	NEW YORK				MILFORD	188	6459	6330
FLAGSTAFF	310	6391	7103	TOPEKA	64	4938	5230	ALBANY	343	6882	6849	SALT LAKE CITY	214	5616	5895
PHOENIX	0	1093	1552	WICHITA	42	4582	4680	BINGHAMTON	384	6711	7210	WENDOVER	137	5414	5724
TUCSON	5	1657	1752	KENTUCKY				BUFFALO	365	6601	6849	VERMONT			
WINSLOW	77	4769	4719	COVINGTON	161	4640	5061	NEW YORK U	165	4500	4848	BURLINGTON	430	7706	7813
YUMA	2	999	1005	LEXINGTON	128	4006	4721	NEW YORK KENNEDY	183	4813	5175	VIRGINIA			
ARKANSAS				LOUISVILLE	99	3796	4440	NEW YORK LA GUARDIA	186	4519	4909	LYNCHBURG	105	3742	4233
FORT SMITH	6	3048	3334	LOUISIANA				ROCHESTER	352	6340	6673	NORFOLK	63	2737	3488
LITTLE ROCK	4	2649	3354	ALEXANDRIA	0	1583	2200	SYRACUSE	339	6581	6632	RICHMOND	75	3340	3939
CALIFORNIA				BATON ROUGE	0	1050	1670	NORTH CAROLINA				ROANOKE	96	3615	4307
BAKERSFIELD	27	1776	2185	LAKE CHARLES	0	1104	1498	ASHEVILLE	83	3458	4223	WALPOLE ISLAND	115	4189	4233
BISHOP	87	4352	4275	NEW ORLEANS	0	931	1465	CAPE HATTERAS R	28	1882	2731	WASHINGTON			
BLUE CANYON	355	5898	5507	SHREVEPORT	2	1912	2167	CHARLOTTE	36	2786	3218	OLYMPIA	403	5481	5333
EUREKA U	423	4450	4385	MAINE				GREENSBORO	59	3403	3825	QUILLAYUTE	513	5961	5657
FRESNO	33	2411	2641	CARIBOU	609	9589	9462	RALEIGH	48	2806	3514	SEATTLE	338	4679	4363
LONG BEACH	37	1487	1583	PORTLAND	444	6916	7392	WILMINGTON	24	1707	2433	SEATTLE-TACOMA	304	4675	5018
LOS ANGELES	32	1398	1748	MARYLAND				NORTH DAKOTA				SPOKANE	455	6826	6691
LOS ANGELES U	32	1056	1220	BALTIMORE	148	4389	4729	BISMARCK	440	9327	8922	STAMPEDE PASS R	840	9327	8974
MT SHASTA R	323	5920	5712	MASSACHUSETTS				FARGO	431	9598	9174	WALLA WALLA U	227	4542	4786
OAKLAND	275	3131	2795	BLUE HILL OBS R	371	6083	6281	WILLISTON	448	9162	9026	YAKIMA	329	5642	5915
RED BLUFF	52	2738	2680	BOSTON	335	5333	5594	OHIO				WEST VIRGINIA			
SACRAMENTO	93	2717	2823	WORCESTER	391	6619	6787	AKRON	241	5458	6191	BECKLEY	198	4669	5576
SANDRIDGE R	270	4554	4311	MICHIGAN				CINCINNATI ABBE OB	136	4325	4837	CHARLESTON	115	3922	4608
SAN DIEGO	55	1386	1455	ALPENA	517	8096	8368	COLUMBUS	280	5396	6114	HUNTINGTON	255	5378	5912
SAN FRANCISCO	270	3066	2922	DETROIT	283	5938	6202	DAYTON	178	4864	5689	PARKERSBURG U	143	4232	4809
SAN FRANCISCO U	309	3113	2886	DETROIT METRO	308	6231	6383	MANSFIELD	234	5388	5794	WISCONSIN			
SANTA MARIA	312	3075	2886	FLINT	344	6584	6976	TOLEDO	295	6291	6349	GREEN BAY	413	7737	8007
STOCKTON	47	2513	2791	GRAND RAPIDS	364	6702	6757	YOUNGSTOWN	288	5960	6384	LA CROSSE	316	7215	7378
COLORADO				HOUGHTON LAKE	463	7994	8227	OKLAHOMA				MILWAUKEE	448	6936	7354
ALAMOSA	359	8475	8438	LANSING	359	6785	6856	OKLAHOMA CITY	8	3286	3695	WYOMING			
COLORADO SPRINGS	176	5880	6170	MARQUETTE U	535	8183	8186	TULSA	5	3311	3680	CASPER	416	7386	7408
DENVER	137	5705	5936	MUSKOGEE	398	6857	6826	OREGON				CHEYENNE	304	6865	7099
GRAND JUNCTION	66	5862	5585	SAULT STE MARIE	558	9134	8993	ASTORIA	445	5261	5040	LANDER	415	7537	7719
PUEBLO	59	5047	5366	MINNESOTA				BURNS U	453	6846	7007	SHERIDAN	462	7311	7540
CONNECTICUT				DULUTH	565	9857	9562	EUGENE	270	4350	4606				
BRIDGEPORT	219	4881	5437	INTERNATIONAL FALLS	539	10383	10379	MEACHAM	662	7914	7540				
HARTFORD	287	5827	6326	MINNEAPOLIS	338	7898	8094	MEDFORD	267	4518	4834				
DELAWARE				ROCHESTER	340	7991	8149	PENDELTON	241	4731	5170				
WILMINGTON	137	4347	4940	ST CLOUD	418	8780	8783	PORTLAND	282	4352	4664				
DIST OF COLUMBIA	168	4632	5005	MISSISSIPPI				SALEM	371	4825	4719				
WASHINGTON DULLES	85	3410	4211	JACKSON	1	1747	2300	SFXTON SUMMIT R	586	7064	6138				
WASHINGTON NATIONAL				MERIDIAN	0	1537	2388	PENNSYLVANIA							
FLORIDA				MISSOURI				ALLENTOWN	216	5239	5806				
APALACHICOLA U	0	789	1361	COLUMBIA REGIONAL	129	4841	5067	ERIE	373	6171	6771				
DAYTONA BEACH	0	515	897	KANSAS CITY	84	4889	5149	HARRISBURG	133	4640	5224				
FORT MYERS	0	234	457	ST JOSEPH	84	4998	5429	PHILADELPHIA	128	4441	4865				
JACKSONVILLE	0	933	1327	ST LOUIS	101	4608	4740	PITTSBURGH	223	5228	5904				
KEY WEST	0	41	44	SPRINGFIELD	64	4046	4560	SCRANTON	291	6241	6249				
LAKELAND U	0	381	678	MONTANA				WILLIAMSPORT	258	5840	5958				
MIAMI	0	131	206	BILLINGS	443	6746	7134	RHODE ISLAND							
ORLANDO	0	3538	733	GLASGOW	436	8007	8541	BLOCK ISLAND	377	5359	5689				
PENSACOLA	0	897	1578	GREAT FALLS	477	7287	7490	PROVIDENCE	313	5497	5936				
TALLAHASSEE	0	1106	1563	HELENA	500	7688	7996	SOUTH CAROLINA							
TAMPA	0	418	718	KALISPELL	510	7649	8104	CHARLESTON	2	1395	2144				
WEST PALM BEACH	0	174	299	MILES CITY	389	7234	7772	CHARLESTON U	2	1213	1904				
GEORGIA				MISSOULA	505	7299	7730	COLUMBIA	7	1599	2598				
ATHENS	19	2342	2975					GRNVILLE-SPRTRNBRG	54	2784	3163				
ATLANTA	5	2310	3095					SOUTH DAKOTA							
AUGUSTA	8	1981	2547					ABERDEEN	350	8540	8524				
COLUMBUS	1	1570	2378					WYOMING	346	7644	7989				
MACON	4	1591	2240					RAPID CITY	343	6820	7190				
ROME								SIOUX FALLS	303	7403	7773				
SAVANNAH	1	1275	1952												

(Base 65°F.)

MAY 1974

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STORM SUMMARY

MAY 1974

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	DAMAGE	DEATHS	INJURIES	↑ DAMAGE		DEATHS	INJURIES	↑ DAMAGE		DEATHS	INJURIES	↑ DAMAGE		DEATHS	INJURIES	↑ DAMAGE		DEATHS	INJURIES	↑ DAMAGE		DEATHS	INJURIES	↑ DAMAGE	
								PROP. ERTY	CROPS			PROP. ERTY	CROPS			PROP. ERTY	CROPS			PROP. ERTY	CROPS								
Alabama	1	1			4							4			1														
Alaska	*																												
Arizona	*	3	3		5			5	C			5	C			4										5			
Arkansas																													
California																													
Colorado		3	2					3	4		1	5	2			4											4		
Connecticut																													
Delaware																													
Florida	21	7		8	6				6			4				4									2		4		
Georgia	5	2	3	18	6			4	3		1	5		3													2	3	
Hawaii	*																												
Idaho										1	34	2	2																
Illinois	6	2		12	6			5		1		5	2	1	3									2	1	7	8		
Indiana	2	2			4							4		2													5	C	
Iowa	10	4		3	6		2	6	5		1	6	6		1	4	4									3	6	6	
Kansas																													
Kentucky	10	5		5	6					1	3	6		1		4									1		4	4	
Louisiana	1	1			4			5	C			5																	
Louisiana	5	2		3	5			4				4															5		
Maine	*																												
Maryland & D.C.	2	1			3																								
Massachusetts												4				4													
Michigan	2	2	1		5							4				5											2		
Minnesota	1	1		2				5	6																		4	4	
Mississippi	1	1			2							3				4											4	2	
Missouri	4	3			4		1						2	6	2												2	2	
Montana												5																	
Nebraska	7	5			6			5	6		1	6	5			4											4	5	
Nevada												4																	
New Hampshire	*																												
New Jersey															1	3													
New Mexico	3	3									1	4	3															4	
New York										1		5	C														7	C	
North Carolina	4	1		2	5				4					2		5	5												
North Dakota	4	3			5			4				5															2	2	
Ohio	5	2			5							5			1	5													
Oklahoma																													
Oregon	9	5		1	5			6	6			5	5																
Pacific Area	*																												
Pennsylvania								2				5				4										2		3	
Puerto Rico	*																												
Rhode Island	*																												
South Carolina	2	2	6	3	6			4	3			5	3			4											3	3	
South Dakota	7	2			5			5	5			5	4														5	5	
Tennessee								5	5		3	4		1		4										1	5	5	
Texas	18	11		11	5			7	6		1	6	5			3													
Titan												4																	
Vermont												5																	
Virginia	1	1			4								C																
Virgin Islands	*																												
Washington	*																												
West Virginia	*																												
Wisconsin	1	1			5							5				2												4	
Wyoming												4																	

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

MAY 1974

Herbert J. Thompson and Raymond J. Haley
Office of Hydrology

Major flooding occurred in the upper Mississippi Basin in eastern Iowa and Illinois with losses of \$100 million, and in the lower Missouri Basin in Missouri with losses approaching \$50 million. Serious flooding occurred on the St. John's River in Maine, the Wabash River in Indiana, and continued from April on the Souris and Red River of the North Basin in North Dakota and Minnesota, and the Pearl River in Mississippi.

Kansas, and Arkansas with minor flooding in several states including Michigan, Virginia, Texas, and Louisiana. Snowmelt runoff began in the western mountains with minor flooding in the Snake River Basin in Idaho. Damaging flash floods were reported in New York, West Virginia, Indiana, Arkansas, and Louisiana.

Hydrologic events of unusual significance or involving loss of life or property damage are discussed in more detail below.

Moderate flooding occurred in northern Mississippi,

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
HUDSON BAY DRAINAGE			
Souris River Basin	Flooding continued from April along the Souris River. Runoff from melting of the Canadian snowpack was augmented by rainfall which was 1.5 to 3 inches above normal for the month over the basin. This rainfall prolonged the flooding and caused a secondary crest slightly lower than the initial crest along the middle reach of the stream. Crests were generally 2 to 5 feet over flood stage. Flooding continued into June on the lower Souris.	0	N.A.
Red River of the North Basin	Flooding continued from April along the Red River at and below Grand Forks, N.D. Monthly rainfall totals ranged from 1 to 5 inches above normal which extended the period of flooding and caused several tributary streams to go back over flood stage, notably the Red Lake, Park, and Pembina Rivers with crests up to about 4 feet over flood stage.	0	N.A.
GREAT LAKES DRAINAGE			
Central Michigan Streams	Rainfall of up to 2.5 inches caused minor flooding along the Flint, Shiawassee, Red Cedar, and Clinton Rivers. More serious flooding occurred along the Tittabawassee River with damage reported at Sanford, Mich., where 4 families and persons from one motel were evacuated. Damage to county roads was estimated at \$95,000. Total damage to private property is not available although one home received \$7,000 damage.	0	N.A.
Lake Ontario Streams	During the night of the 16th-17th a series of thunderstorms with rains which reached torrential intensities at times deposited over 4 inches of rain over Orleans and Monroe Counties in New York State. Although no river flooding was reported, some of the worst local urban and storm drainage flooding ever experienced in these areas occurred. Up to 6 feet of water was reported in basements and low-lying areas with damage also to roads, orchards, and vegetable crops.	0	N.A.
ATLANTIC SLOPE DRAINAGE			
St. John River	On the 1st, the worst flood in at least 18 years struck Fort Kent, Me. This flood resulted from	0	3,000

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

MAY 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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ATLANTIC SLOPE DRAINAGE-Continued

a combination of snowmelt runoff, augmented by spring rains, and amplified by the breaking up of a huge ice jam about 5 miles above Fort Kent. The local Civil Defense Director estimated the crest stage at 29 feet. Flood stage is 21 feet. Damage was estimated at \$1 million to public property and \$2 million to private property with 350 people evacuated from their homes.

James River	On the 12th a low pressure area with tropical characteristics, which had moved northeast from the central Gulf of Mexico, deposited moderate to heavy rain over the headwaters of the James River. Amounts were generally in range of 1.5 to 2.5 inches with a maximum of 3.6 inches at Montebello Fish Nursery. Minor flooding occurred at several points on the James from Lick Run to Richmond, Va., with crests up to 1.5 feet above flood stage.	0	N.A.
Pee Dee River Basin	Moderate rises occurred on several streams in the basin as a result of rainfall totalling as much as 12 inches. The only flooding reported was in the Lumber River Basin where rainfall averaged about 7.5 inches for the month. The crest of 1.6 feet over flood stage caused little damage.	0	N.A.

EAST GULF OF MEXICO DRAINAGE

Tombigbee River Basin	With monthly rainfall totals of as much as 10 inches over some areas of northern Mississippi there was some moderate flooding in the headwaters of the Tombigbee River where crests of about 1.5 to 2.5 feet over flood stage occurred.	0	N.A.
Pearl River	Extensive lowland flooding continued during the first week of May along the lower Pearl as a result of the major flood of April. Monthly rainfall totals of 10 to over 12 inches over the lower Pearl with about 7 inches falling on the 21st-23d caused minor flooding on the lower Pearl and the Bogue Chetto River, a tributary, towards the end of the month.	0	N.A.

UPPER MISSISSIPPI BASIN

Rock River Basin	Major flooding occurred in the lower Rock River Basin in Illinois during May. Rainfall totals for the month were generally in the range of 5 to 8 inches with locally heavier amounts of more than 10 inches. At Moline the total of 11.43 inches was the greatest for May and the third largest total for any month in records going back to 1871. Only minor flooding occurred on the headwaters of the Rock with 1 to 2 feet overflow along the Pecatonica. However, 7 to 9 feet of flooding was reported on the Kishwaukee and Green Rivers, downstream tributaries. Flash flooding occurred on many smaller tributaries. On the lower Rock River where crest stages were lowered when a number of dikes gave way, 4 to 5 feet of flooding was reported. At Hillsdale, 30 families were evacuated. Preliminary estimates of damage by counties include: Rock Island, \$2.5 million to private property with 300 homes flooded, \$200,000 to roads and bridges,	0	13,000
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GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

MAY 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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UPPER MISSISSIPPI BASIN-Continued

and \$750,000 to agriculture with 7,500 acres affected; Whiteside \$4.5 million agricultural with 132,000 acres affected; Henry, \$2 million with 50,000 acres affected; and Mercer, \$100,000 with 5,000 acres affected. Flooding continued into June on the Lower Rock.

Mississippi Tributaries in Iowa	Excessive rainfall during a 5-day period the 15th-19th caused major flooding in central Iowa. Record crest stages were reported on the Wapsipinicon River at DeWitt, Richland Creek at Haven, and Walnut Creek at Hartwick. The latter two streams are tributaries of the Iowa River on which as much as 8 feet of flooding was reported. Crests in the middle and lower Skunk basin were 4 to 6 feet over flood stage. On the North Raccoon River crests were 3 to 4 feet over flood stage while on the South and main stem Raccoon Rivers 7 to 8 feet of flooding was reported. Flash flooding occurred on Four-Mile Creek in northeast Des Moines where many people were evacuated. Rainfall totals for the storm were generally in the range of 6-8 inches. Additional rainfall of 2 to 3 inches over the Skunk and lower Iowa basins caused a secondary crest and prolonged the flooding. An estimated 1,350,000 acres of farmland sustained severe soil erosion with 565,000 acres flooded. Extensive property damage was reported in many communities.	0	57,000
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Illinois River Basin	Flooding which had been in progress since late January continued into the first week of May at Havana and Beardstown. The entire basin had above normal river levels and ground moisture conditions from heavy rainfall in April which were maintained by moderate to heavy rainfall on May 8 and 15. During the period of the 17th-19th excessive rainfall with amounts up to 6 inches fell over the basin resulting in major flooding along the entire length of the stream. Crests were 6 to 8 feet over flood stage from Morris to Peoria. Downstream flooding continued into June with no crests until late in June.	0	30,000
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Upper Mississippi Main Stem	The excessive rainfall and runoff over the tributaries of the Mississippi in Iowa and Illinois caused flooding along the Mississippi River from Davenport, Iowa, downstream. Flooding increased in intensity as the crest moved downstream reaching a maximum just above St. Louis with a crest stage nearly 8 feet over flood stage reported at Grafton, Ill. Damage estimates have not been completed but for the most part are considered to be included in preliminary damage figures for the tributaries.	0	N.A.
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MISSOURI BASIN

Milk River Basin	Flooding occurred in the Milk River Basin with most of the damage to roads and bridges along Beaver, Sandy, Box Elder, and Sucker Creeks. These are small tributaries of the Milk River draining the Bear Paw Mountains south of Havre, Montana. There are no river stage reporting stations in the area. One flood-related death was reported.	1	110
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GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

MAY 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
MISSOURI BASIN-Continued			
Elkhorn River Basin	Widespread thundershowers on the 17th-18th with rainfall amounts of 4 to 6 inches caused overflow along Pebble and Maple Creeks. However, Lyons, Nebraska, on Logan Creek reported 11.25 inches without flooding.	0	0
Kansas River Basin	Monthly rainfall totals were quite variable but generally below normal over the basin. However, there was some light to moderate flooding at widely scattered points. During a 48-hour period on the 16th-18th nearly 5 inches of rain fell at Eastern, Kansas, and on the 17th, 2.64 inches fell in one hour at Osceola, Nebr. There was 2 to 3 feet of flooding along Stranger Creek. During the period of the 19th-22d, 4 to 5-inch rains produced light flooding along the Smoky Hill River below Kanopolis Reservoir and moderate flooding on some of its tributaries. Several businesses in Salina, Kansas, suffered minor flooding from Mulberry Creek. Light flooding also occurred during this period on the Big Black Vermillion River and the headwaters of the Big Blue River. Damage was estimated at \$52,400 with 3,460 acres flooded in the Big Blue Basin, \$60,000 and 3,000 acres affected along Stranger Creek, and \$7,500 with 3,800 acres inundated in the Smoky Hill Basin.	0	120
Lower Missouri Basin	<p>Monthly rainfall was much above normal over the lower Missouri Basin. The heaviest rainfall was in west central Missouri with totals ranging up to the 14.64 inches recorded at Smithville, Mo., which was nearly 4 times normal. Much of this rain fell on the 16th-18th causing serious flooding on a number of streams in the area. Most seriously affected was the Little Platte River which reached the second highest stage of record at Smithville, more than 15 feet above flood stage and less than 5 feet below the record crest of 1965. Losses were heavy in all categories with 320 dwellings affected and 17,000 acres inundated. Damage was estimated at \$13,378,710.</p> <p>Major flooding occurred in the Platte River Basin with the crest at Agency nearly 7 feet over flood stage. Losses occurred in all categories and were estimated at \$19,140,110 with 240 dwellings affected and 40,500 acres inundated.</p> <p>Major losses occurred also in the Fishing River Basin and were estimated at \$7,414,990 with 118 homes affected and 16,000 acres inundated. The towns of Mosby, Prathersville, and Excelsior Springs were evacuated and suffered heavy damage. There are no river stage reporting stations along the Fishing River.</p> <p>The three lives lost were in the Little Blue Basin where damage was \$140,000, mainly agricultural, with 3,500 acres affected. However, 200 people were evacuated from Birmingham, Mo., and 50 from Tracy, Mo. The crest stage of 26.75 feet nearly 9 feet over flood stage, was one of the highest stages of record at Lake City, Mo.</p>	3	48,230

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

MAY 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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MISSOURI BASIN-Continued

Serious flooding occurred along several other tributaries of the lower Missouri River with crests generally about 4 to 9 feet over flood stage and damage primarily agricultural. These streams were: the Blackwater River with 19,300 acres affected and \$1,880,000 damage; the Chariton River with 24,000 acres inundated and \$1,672,000 damage; Wakenda Creek with 20,000 acres inundated, 25 homes flooded, and \$1,234,000 damage; the 102 River with 16,000 acres inundated and \$1,658,000 damage; the Crooked River with 15,000 acres affected and \$1,342,500 damage; and the Grand River with 26,000 acres inundated and \$343,000 damage. Minor losses of \$45,000 occurred in the Blue River Basin with 1,000 acres affected.

Lower Missouri Main Stem	Heavy inflow from the flooding tributaries caused flooding of the less protected areas along the Missouri River at most points from Rulo, Nebr., to the mouth. Crest stages were generally in the range of 5 to 9 feet over flood stage. Damage in the reach from 50 miles above St. Joseph, Mo., to Jefferson City, Mo., was estimated at \$3,784,200. It was primarily agricultural with 81,600 acres inundated. However, 50 residences in St. Joseph and 3 businesses in Boonville suffered some damage. No estimates are available for the reach below Jefferson City.	0	N.A.
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OHIO BASIN

Kanawha, Guyandotte River Basins	Flash flooding was reported along a number of small streams in western West Virginia during the night of the 29th-30th as a result of rains of as much as 4 inches. Heaviest concentration of rain was over the Guyandotte Basin. Logan County was the most seriously affected area with a number of roads flooded. However, major streams remained within banks.	0	N.A.
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On the 31st flash flooding again occurred in the same general area. Brancho Junction in Putnam County reported 2.5 inches in one hour, an amount expected once in 25 years. Flooding by the Mud River was reported around Barboursville, W. Va.

Wabash River Basin	Rainfall over the Wabash Basin ranged from 2 to 4 inches above normal for the month resulting in extensive flooding of agricultural bottomlands along most streams of the middle and lower Wabash Basin after the middle of the month. Crest stages were generally in the range of 3 to 5 feet over flood stage along the lower Embarrass, White, and Wabash Rivers and the upper reaches of the Little Wabash. This flooding delayed spring planting and will cause a reduced yield. Damage to existing crops was significant. During the last three days of the month more than 3.5 inches of rain fell over the lower basin causing a second period of flooding on some tributaries and prolonging flooding on the lower Wabash into June with a second crest in June. Losses for May and June flooding will not be separable and will be reported on in June.	0	N.A.
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GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

MAY 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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OHIO BASIN-Continued

A highly localized flash flood occurred near Clermont, Indiana, during the afternoon of the 21st. Local residents reported up to 5 inches of rain fell between 2:30 and 4:30 p.m. Up to \$100,000 damage was reported at the Indiana Girls School; a small bridge on US 136 and 45 feet of railroad track were washed out. Many roads, streets, and basements were flooded. No known deaths or injuries resulted.

Ohio River Main Stem	Fairly heavy rains in the headwaters of the basin early in the month and periodic rainfall the remainder of the month with heavy inflow from the Wabash Basin caused the lower Ohio River to rise to three-quarter bankful with a crest of 2.35 feet over flood stage at Cairo due to backwater from the Mississippi. Flooding at Cairo continued into June.	0	N.A.
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WHITE BASIN

Cache, Black and White Rivers	Flooding continuing from April ended during the first 2 weeks of May on the Cache River at Patterson, Ark., and the lower Black and White Rivers. Rainfall of up to 5 inches on the 14th-15th caused a sharp rise on the lower Black River, cresting 8.6 feet over flood stage at Black Rock, Ark. The Cache River went back over flood stage at Patterson with flooding continuing on both streams into June. Damage amounted to a further delay in farm operations with the possibility of no crop in some areas this season.	0	N.A.
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ARKANSAS BASIN

Arkansas Basin Rivers	Rainfall was extremely variable over the basin during May, ranging from less than 25 percent of normal in the extreme western portion to more than 150 percent of normal in the central and eastern portion. Smallest monthly total was 0.12 inches at Boise City, Okla., while the largest was 9.65 inches at Dolberg, Okla. Isolated minor flooding was reported on several streams including Cow Creek at Lyons, Kansas, the Little Arkansas River at Sedgwick, Kansas, the Cimarron River at Guthrie, Okla., the Little Caney River at Copan, Okla., Bird Creek at Sperry, Okla., and Neosho River at Americus, Kansas. Moderate flooding occurred along the lower Poteau River in Oklahoma.	0	N.A.
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RED RIVER

Ouachita River	Rainfall of up to 8 inches on the 14th-15th caused a sharp rise on the middle Ouachita River cresting 4 feet over flood stage at Arkadelphia, Ark.	0	N.A.
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An average basin rainfall of 2 inches caused minor flooding at Headrick, Okla., on the North Fork of the Red on the 1st-3d. An average of 3 inches over the Clear Boggy Creek Basin caused moderate flooding at Caney, Okla., early in the month with a crest 3 feet over flood stage.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

MAY 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
LOWER MISSISSIPPI BASIN			
L'Angville River	Serious flash flooding occurred on the 16th in Phillips County and the community of Helena, Arkansas. Agricultural damage amounted to \$1,405,000; 500 homes were damaged with losses of \$870,000 and 400 people evacuated; and 75 businesses were flooded with losses of \$225,000.	0	2,500
Yazoo River Basin	Monthly rainfall totals of more than 10 inches over the basin with the heaviest amounts about the middle of the month caused lowland flooding along the Tallahatchie River which continued into June.	0	N.A.
Lower Mississippi Main Stem	The river was below flood stage and in recession at the beginning of the month which continued until about the middle of the month when a new rise began moving downstream as a result of flooding on the Upper Mississippi. This rise crested just below flood stage at Caruthersville, Mo., at the end of May and continued into June at Points downstream.	0	0
	Flash flooding occurred in southeast Louisiana during the period of the 20th-23d. Flooding was indicated on the Tickfow, Natalbany, and Tangipahoa Rivers but no stage reports are received from those streams. Communities north of Lake Ponchartrain in the parishes of St. Helena, Livingston, Tangipahoa and St. Tammany were affected. A few families were evacuated in the Independence and Hammond areas. Houses, businesses, and roads were flooded.	0	N.A.
	On the 25th a levee broke along Bayou Foke near Raceland, La., flooding 1,200 acres. It was necessary to evacuate 21 families and 1,500 head of livestock. Some livestock were drowned.		
Atchafalaya River	The river, which had been above flood stage continuously since Dec. 13, 1973, at Morgan City, La., fell below flood stage briefly on the 25th and 28th but was rising slowly at the end of the month.	0	N.A.
WEST GULF OF MEXICO DRAINAGE			
Calcasieu River Basin	Heavy rainfall occurred over portions of the basin with monthly totals ranging from about 6 to 11 inches. Several rises resulted on the Calcasieu River but only one crested slightly above flood stage. This was at Oakdale, La., on the 23d.	0	0
Sabine River	Minor flooding continued from April on the Upper Sabine from Emory to Longview, Texas, during the first two weeks of May prolonged by rains totaling 1 to 3 inches during the first week. Crests were generally in the range of 2 to 3 feet over flood stage.	0	N.A.
Trinity River Basin	Minor flooding continued from April on some headwater tributaries. Rains of over 3 inches on the 5th-6th caused moderate flooding on the Upper Trinity from Dallas to Trinidad, Texas. Crests ranged from 4 to 5 feet over flood stage. Rains totaling over 4 inches the first 10 days of the month over the lower Trinity caused flooding at Moss Bluff.	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

MAY 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
WEST GULF OF MEXICO DRAINAGE-Continued			
Brazos River Basin	More than 4 inches of rainfall on the 1st caused minor flooding along the Navasota River, a tributary of the Brazos.	0	N.A.
Colorado River Basin (Texas)	Moderate flooding occurred on the Llano River in Response to 2 to 4 inches of rain over the lower reach of the river. The crest at Llano was 4.7 feet over flood stage.	0	N.A.
Lavaca River Basin	Rainfall of up to nearly 5 inches on the 10th caused moderate flooding on the Navidad River with a crest at Ganado, Texas, 4.65 feet over flood stage. On the Lavaca River minor flooding occurred in response to 2 to 3 inches of rain over the middle and lower reaches of the river.	0	N.A.
Guadalupe River	Nearly 7 inches of rain on the 1st caused widespread lowland flooding above Canyon Dam. One person drowned at Hunt, Texas, attempting to cross the river in a truck. From 4 to 6 inches fell below Canyon Dam resulting in a crest 5.6 feet over flood stage at Dupont, Texas, on the 11th.	1	N.A.
GREAT BASIN			
Weber and Ogden Rivers	Warm weather early in May caused rapid melting of heavy snowpacks. Several dams overflowed, the most important of which was Pine View. Some highway, railroad, and residential yard damage occurred. No stage reports were received. Cooler weather later in the month allowed the remainder of the snow to melt and run off without further flooding.	0	N.A.
COLUMBIA BASIN			
Snake River Basin	Runoff from snowmelt caused the Portneuf River at Pocatello, Idaho, and the Henrys Fork of the Snake River at Rexburg, Idaho, to run near bankful all month, with a few days over flood stage at both points. Controlled flooding continued from April on the Boise River below Boise as upstream reservoirs were drawn down to provide storage for runoff from the unusually heavy snowpack.	0	N.A.
ALASKA			
	The spring breakup on most Alaska streams was extremely mild with few significant rises occurring. The only problem reported was an ice jam on the Kobuk River below Kobuk which flooded the village for a few hours.	0	N.A.

FLOOD STAGE DATA

ALL dates in May unless otherwise specified

River and station	Flood stage	Above flood stages -dates		Crest	
		From-	To-	Stage	Date
HUDSON RIVER DRAINAGE	Ft			Ft	
Souris River					
Storwood, N. Dak.	18	Apr 19		#23.52	Apr 20
Bathoam, S.E. N. Dak.	10	Apr 12	1	A14.78	13
Minor E. West, N. Dak.	14	Apr 19	24	A16.99	14
Minor, N. Dak. (Broadway Bridge)	154.4	Apr 21	17	A1550.96	14
	MSL		23	1549.15	21
Wagan, N. Dak.	16	11	16	36.43	15
Valva, N. Dak.	105	Apr 26	26	A106.5	18
Bantry, S.E. N. Dak.	11	Apr 11	Jun 14	13.13	22
Westhope, N.E. N. Dak.	10	Apr 15	1	16.62	Apr 26
Wild Blue River					
Hendrum, Minn.	17	Apr 28		#22.12	Apr 30
Red Lake River					
High Landing, Minn.	9	Apr 28	3	#11.06	Apr 28
		12	17	10.06	Apr 12
Brookston, Minn.	15	Apr 29	1	17.96	Apr 29
		13	13	15.00	13
Park River					
Crafton, N. Dak.	13	21	24	16.12	22
Two Rivers River					
Hall, Minn.	8.1	14	21	803.3	16
	MSL				
Pembina River					
Walhalla, N. Dak.	11	Apr 25	5	#15.17	Apr 27
		20	23	13.23	21
Neche, N. Dak.	18	Apr 18	17	23.15	Apr 28
		21	2	21.96	22
Red River of the North					
Grand Forks, N. Dak.	28	Apr 14	6	#40.24	Apr 18
Oslo, Minn.	28	Apr 15	6	35.05	Apr 19-20
Drayton, N. Dak.	32	Apr 17	13	39.84	Apr 27
Pembina, N. Dak.	42	Apr 20	13	#45.3	Apr 28, 29
Emerson, Manitoba, Canada	81.5	Apr 20	11	#6.60	Apr 28
ST. LAWRENCE DRAINAGE					
Red Cedar River					
Williamston, Mich.	7	17	18	7.1	18
Shawwassee River					
Owosso, Mich.	7	17	18	7.76	17
Flint River					
Flint, Mich.	11	17	18	12.8	17
Tittabawassee River					
Midland, Mich.	24	17	19	26.25	18
Clinton River					
Fraser, Mich.	13	17	18	13.64	18
Mt. Clemens, Mich.	13	17	18	13.92	18
St. Josephs					
Montpelier, Ohio	19	11	21	11.4	18
Tittab					
Stryker, Ohio	11	14	21	12.0	19
ATLANTIC SLOPE DRAINAGE					
Kennebec River					
Skowhegan, Me.	33,000	1	4	65,000	1
	c.f.s.	13	15	47,790	14
				c.f.s.	
James					
Lick Run, Va.	14	13	13	17.51	13
Breno Bluff, Va.	19	14	14	19.0	14
Columbia, Va.	18	14	14	18.5	14
State Farm, Va.	12	14	15	12.4	14
Richmond, Va. (Westham)	12	14	15	12.26	15
Smithfield, N. C.	13	24	16	14.1	16
Cape Fear					
Hushe Lake, N. C.	42	14	14	42.0	
Elizabethtown, N. C.	20	15	15	20.3	
Lumber					
Lumberton, N. C.	9			10.6	22
East Fork Lumber					
Fulton, Miss.	15	16	19	16.60	16
Tombigbee					
Amory, Miss.	20	16	20	22.65	
		25	25	21.89	
Bogue Chitto					
Franklinton, La.	11			E12.0	23
Pearl					
Bogalusa, La.	15	12	7	22.14	Apr 18
		24	14	15.9	13
		24	24	15.7	24
Pearl River, La.	12	Apr 12	8	18.2	Apr 21
		24	27	12.9	
Upper Mississippi Basin					
Maquoketa River					
Maquoketa, Iowa	13	16	18	17.04	17
		22	22	15.44	22
Wapsipinicon River					
De Witt, Iowa	10	17	17	13.09	17
Pecatonica River					
Darlington, Wis.	11	22	22	13.65	22
Martintown, Wis.	11	22	26	12.7	
Shirland, Ill.	12	18	30	14.4	
Kishwaukee River					
Perryville, Ill.	10	16	26	18.70	18
Green River					
Geneseo, Ill.	8	17	17	14.91	
Rock River					
Afton, Wis.	8	17	5	A 9.5	Apr 22-24
		17	28	8.4	22
Rockton, Ill.	10		27	11.3	13
Rockford, Ill.	13.5	21	25	14.1	23
Joslin, Ill.	12	17	1	17.1	18-20
Moline, Ill.	12	17	1	15.6	20
Richland Creek					
Haven, Iowa	11			23.5	28
Walnut Creek					
Hartwick, Iowa	11		1	15.87	28
English River					
Fallon, Iowa	14			20.45	19
Iowa River					
Marshalltown, Iowa	13	16	24	15.30	16
				15.49	19
				14.15	
Iowa City, Iowa	19	17	18	20.64	17
		17	17	21.46	30
Wapello, Iowa	10	17	23	18.0	19
		29	Jun 3	12.0	
South Skunk River					
Ames, Iowa (Below Squaw Cr.)	10	18	1		18
Ames, Iowa	15	Apr 29	1		Apr 30
		13	Jun 3		15
				21.03	20
				21.18	22
				18.97	29

FLOOD STAGE DATA

(All dates in May unless otherwise specified)

MAY 1974

River and station	Flood stage	Above flood stages -dates		Crest		River and station	Flood stage	Above flood stages -dates		Crest	
		From--	To--	Stage	Date			From--	To--	Stage	Date
	Ft.				Ft.		Ft.				Ft.
<u>Upper Mississippi Basin-Continued</u>						<u>Upper Mississippi Basin-Continued</u>					
North Skunk River:						Mississippi River-Cont'd:					
Sigourney, Iowa	16	Apr 30	3	22.00	Apr 30	Hannibal, Mo.	16	3	5	16.23	4
		15	24	22.45	19			18	Jun 6	23.27	22
		28	19.14	30		Louisiana, Mo.	15	18	Jun 7	21.30	22
Skunk River:						Dam 24 TW, Clarksville, Mo.	25	5	5	25.00	5
Brighton, Iowa	14	2	5	16.10	3			18	1	31.51	23
		17	6	18.17	22	Dam 25 TW, Winfield, Mo.	26	14	1	32.54	Jun 2
				16.75	28	Grafton, Ill.	18	20	1	25.80	Jun 3
				16.71	30	Dam 26 TW, Alton, Ill.	21	20	Jun 20	27.71	25
	16	14	2	18.80	22	St. Louis, Mo.	30	22	27	32.53	26
		28	Jun 2	18.7	31	Chester, Ill.	27	21	Jun 21	32.50	25
North Raccoon River:						Cape Girardeau, Mo.	32	22	Jun 21	36.92	27
Jefferson, Iowa	11	18	24	13.2	20	Thebes, Ill.	33	22	Jun 19	36.33	27
Perry, Iowa	13	18	23	13.4	20						
South Raccoon River:						<u>Missouri Basin</u>					
Redfield, Iowa	14	18	20	22.04	19	Milk River:					
Raccoon River:						Harlem, Mont.	21	23	24	21.8	23
Van Meter, Iowa	13	18	23	20.6	20	Nishnabotna River:					
				16.3	22	Hamburg, Iowa	18	18	20	19.65	19
	14	18	23	17.6	20			30	31	16.84	30
North River:						One Hundred And Two River:					
	14	Apr 28	2	#21.77	Apr 30	Rosendale, Mo.	11	17	18	17.0	18
		17	21	20.33	20	Little Platte River:					
		28	20	19.75	27	Smithville, Mo.	24	17	20	39.69	18
South River:								22	23	24.14	22
Ackworth, Iowa	19	18	14	22.47	18	Platte River:					
						Agency, Mo.	20	17	20	26.86	18
	22	18	19	22.73	19	Black Vermillion River:					
Cedar Creek:						Frankfort, Kans. (Hwy 9)	19	19	20	21.40	19
	14	17	20	25.38	19	Big Blue River:					
Des Moines River:						Ulysses, Nebr.	15	21	21	19.6	21
Des Moines 14th St., Iowa	21	17	24	27.09	20	Smoky Hill River:					
Eddyville, Iowa	14	1	20	15.69	20	Lindsborg, Kans.	21	19	20	23.40	19
Kankakee River:						Mentor, Kans.	16	20	20	16.83	20
Homence, Ill.	5	17	25	6.05	21	New Cambria, Kans	25	20	21	27.34	20
Fox River:						Stranger Creek:					
Dayton, Ill.	12	17	24	18.51	18	Easton, Kans.	15	17	18	18.10	17
Vermilion River:						Tonganoxie, Kans.	22	17	19	24.10	18
Leonore, Ill.	10	19	24	13.31	23	Blue River:					
Sangamon River:						Kansas City, Mo., Bannister Rd.	21	14	14	24.95	14
Monticello, Ill.	14	22	24	14.63	23			17	17	23.93	17
Illinois River:						Little Blue River:					
Morris, Ill.	13	17	24	#19.6	25	Lake City, Mo.	18	14	20	26.75	18
La Salle, Ill.	1	17	Jun 10	#27.7	23	Crooked River:					
Peoria, Ill.	18	19	1	#24.5	25	Richmond, Mo.	20	18	19	25.57	18
	14	Jan 23	1	#17.6	Mar 16	Grand River:					
		18	1		8	Chillicothe, Mo.	24	19	20	27.7	20
	14	Jan 11	1	19.6	Mar 18	Sumner, Mo.	26	18	24	32.22	21
		19	1	26.1	Jun 29	Brunswick, Mo.	12	18	25	20.80	20
	32	20	1		8	Chariton River:					
Mississippi River:						Novinger, Mo.	20	19	20	22.40	19
Libby, Minn.	13	Apr 22	8	13.85	Apr 29	Prairie Hill, Mo.	14	19	21	19.4	20
		16	1	13.06	18	Lamine River:					
Aitkin, Minn.	15	Apr 26	1	15.10	Apr 29	Clifton City, Mo.	19	18	19	22.05	18
Davenport, Iowa	15	18	19	15.54	18	Blackwater River:					
Muscatine, Iowa	16	19	25	17.54	20	Valley City, Mo.	22	14	15	26.0	14
Keithsburg, Ill.	12	19	1	16.5	21			17	20	28.0	18
Burlington, Iowa	15	19	1	18.5	22	Blue Lick, Mo.	25	18	25	34.47	21
	16	19	1	19.17	22	Marais Des Cygnes River:					
	15	1	1	20.01	21	Reading 3 N, Kans.	14	14	14	22.1	14
Gregory Landing, Mo.	15	18	Jun 4	23.00	22						
Quincy, Ill.	17	18	Jun 4	23.00	22						

FLOOD STAGE DATA

CALL DATES BY DAY, MONTH, YEAR (DD, MM, YYY)

AT 100

River and station	Flood stage	Above flood stages - dates		Crest	
		From-	To-	Stage	Date
	Ft			Ft	
<u>Missouri Basin-Continued</u>					
Missouri River					
Holdrege, Nebr.	17	19		17.00	19
St. Joseph, Mo.	11	18	19	19.3	18
		20	21	18.8	
Leavenworth, Kans.	19	18	19	22.2	18
		20	21	19.6	20
St. Louis, Mo.	22	18	22	28.44	19
Napoleon, Mo.	17	18	22	23.4	18
Lexington, Mo.	22	18	19	29.0	19
Waverly, Mo.	20	18	19	26.5	18
Miami, Mo.	18	18	24	25.08	18
Glasgow, Mo.	25	19	23	30.4	20
Boonville, Mo.	21	18	24	28.36	21
Jefferson City, Mo.	24	18	24	27.97	22
Hermann, Mo.	21	19	19	28.1	22
St. Charles, Mo.	25	19	19	30.7	19
<u>Ohio Basin</u>					
Vermilion:					
Danville, Ill.	18	22	22	18.1	22
Metarriss:					
Ste. Marie, Ill.	18	22	26	19.15	23
Lawrenceville, Ill.	11	17	Jun 9	16.55	26
				20.45	4
East Fork White:					
Seymour, Ind.	14	20	22	15.45	20
White River:					
Spencer, Ind.	14	18	24	17.50	19
Elliston, Ind.	18	16	26	22.95	23
		31	Jun 3	22.16	Jun 1
Edwardsport, Ind.	15	17	28	20.1	24
		31	Jun 5	20.3	Jun 2
Petersburg, Ind.	14	23	28	19.18	26
Hazleton, Ind.	16	E	22	19	26
Little Wabash:					
Wills, Ill.	16	16	25	19.12	23
		31	Jun 8	21.63	Jun 3
Wabash:					
Lafayette, Ind.	11	17	25	16.36	19
Covington, Ind.	16	19	26	20.74	20
Monterezuma, Ind.	14	17	Jun 2	22.73	21
Clinton, Ind.	18	E	17	22.8	22
Terre Haute, Ind.	14	17	Jun 2	20.1	23
Hutsonville, Ill.	20	20	Jun 2	22.9	24
Riverton, Ind.	18	21	Jun 2	20.1	24
Vincennes, Ind.	16	21	Jun 6	20.63	26
Mt. Carmel, Ill.	17	22	Jun 8	21.70	27
				21.94	Jun 5
New Harmony, Ind.	15	24	Jun 8	16.8	28
				16.8	28
Ohio River:					
Cairo, Ill.	40	23	19	42.35	26
<u>White Basin</u>					
Cache:					
Patterson, Ark.		Apr 16	19	8.9	Apr 24
				7.7	29
Black:					
Pocahontas, Ark.	17	16	19	18.16	17
Black Rock, Ark.	14	13	19	17.4	28
				22.6	28
White:					
Clarendon, Ark.	26	18	18	28.1	Apr 27
<u>White Basin-Continued</u>					
White-Cont'd:					
St. Charles, Ark.	25	Apr 15	13	26.0	Apr 29
			20	25.3	17
<u>Arkansas Basin</u>					
Cow Creek:					
Lyons, Kans.	18	27	27	18.2	27
Little Arkansas:					
Sedgwick, Kans.	18	20	20	18.2	20
		24	24	21.0	24
Cimarron:					
Guthrie, Okla.	19	2	9	10.83	2
Little Caney:					
Copan, Okla.	19	26	28	21.87	27
Bird Creek:					
Neosho:	21	26	27	22.31	27
<u>Arkansas Basin</u>					
Poteau:					
Poteau, Okla.	24	30	30	24.5	Apr 30
Panama, Okla.	24	30	30	29.29	2
<u>Red River Basin</u>					
North Fork Red:					
Headrick, Okla.	12	1	3	12.55	3
Clear Boggy Creek:					
Caney, Okla.	19	Apr 30	4	22.07	1
Sulphur:					
Naples, Tex.	17	Apr 25	4	26.59	Apr 27
Ouachita:					
Arkadelphia, Ark.	17	15	17	21.11	26
Camden, Ark.	26	Apr 25	1	32.0	Apr 26
<u>Lower Mississippi Basin</u>					
St. Francis:					
St. Francis, Ark.	18	Apr 26	1	18.98	Apr 28
		16	19	19.17	16
		22	27	19.44	24
Tallahatchie:					
Swan Lake, Miss.	26	19	19	28.38	25
<u>Atchafalaya Basin</u>					
Atchafalaya:					
Morgan City, La.	7	Dec 13	25	8.0	26
		26	28	7.4	26
		29	2	8.4	Jun 28-30
<u>WEST GULF OF MEXICO DRAINAGE</u>					
Calcasieu:					
Oakdale, La.	12	23	23	12.15	23
Sabine:					
Emory, Tex.	12	Apr 19	8	13.52	1
Mineola, Tex.	14	Apr 23	13	16.71	2
Gladeview, Tex.	26	17	17	28.87	2
Longview, Tex.	25	5	13	26.50	8
Angelina:					
Lufkin, Tex. (Near)	8	19	19	12.1	19
East Fork Trinity:					
Grandall, Tex.	13	Apr 28	8	12.1	19
Chambers Creek:					
Coriscana, Tex. (Near)	20			22.68	
Trinity:					
Dallas, Tex.	30	5	18	34.82	19
Trinidad, Tex.	28	6	18	32.01	19
Moss Bluff, Tex.	28	21	21	6.4	19

FLOOD STAGE DATA

(All dates in May unless otherwise specified)

MAY 1974

River and station	Flood stage	Above flood stages - dates		Crest		River and station	Flood stage	Above flood stages - dates		Crest	
		From-	To-	Stage	Date			From-	To-	Stage	Date
	<i>Ft.</i>			<i>Ft.</i>			<i>Ft.</i>			<i>Ft.</i>	
Abilene: El Paso River (Abilene) - continued						Columbia Basin					
Abilene:						Henry's Fork:					
Abilene, Tex. (Near)	12	8	8	11.44	6	Sexburg, Idaho	9	28	Jun 1	9.37	30
Llano:						Portneuf:					
Llano, Tex. (Near)	17	9	10	16.7	9	Postville, Idaho	8	9	12	8.3	11
Navajo:						Boise:					
Navajo, Tex. (Near)	21	10	14	25.65	11	Boise, Idaho	7	Apr 6	11	7.62	2
Lavaca:						John Day:					
Edna, Tex. (Near)	21	10	11	11.64	11	Service Creek, Ore.	10	Apr 30	1	10.5	1
San Antonio:											
San Antonio, Tex.	20	10	18	15.6	11						

See Station "Data" Report for Additional Crest Information.

RAWINSONDE DATA

Average monthly values

May 1974

SHEPHERD, TEXAS 887 MB										ANCONA, ARIZONA 1006 MB										ANNETTE, ARIZONA 1000 MB									
Standard pressure surface (mb)					Resultant Wind					Standard pressure surface (mb)					Resultant Wind					Standard pressure surface (mb)					Resultant Wind				
No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed						
31	86	9.9	5.8	13	1.6	31	1619	12.6	-0.5	13	8	31	14095	14.8	6.5	13	2	31	45	6.2	1.3	8	23	37	5.7	3.7	13	1.4	
1	135	4.1	2.2	1.5	31	1	135	4.1	2.2	1.5	31	1	135	4.1	2.2	1.5	31	1	135	4.1	2.2	1.5	31	1	135	4.1	2.2	1.5	
2	135	4.1	2.2	1.5	31	2	135	4.1	2.2	1.5	31	2	135	4.1	2.2	1.5	31	2	135	4.1	2.2	1.5	31	2	135	4.1	2.2	1.5	
3	135	4.1	2.2	1.5	31	3	135	4.1	2.2	1.5	31	3	135	4.1	2.2	1.5	31	3	135	4.1	2.2	1.5	31	3	135	4.1	2.2	1.5	
4	135	4.1	2.2	1.5	31	4	135	4.1	2.2	1.5	31	4	135	4.1	2.2	1.5	31	4	135	4.1	2.2	1.5	31	4	135	4.1	2.2	1.5	
5	135	4.1	2.2	1.5	31	5	135	4.1	2.2	1.5	31	5	135	4.1	2.2	1.5	31	5	135	4.1	2.2	1.5	31	5	135	4.1	2.2	1.5	
6	135	4.1	2.2	1.5	31	6	135	4.1	2.2	1.5	31	6	135	4.1	2.2	1.5	31	6	135	4.1	2.2	1.5	31	6	135	4.1	2.2	1.5	
7	135	4.1	2.2	1.5	31	7	135	4.1	2.2	1.5	31	7	135	4.1	2.2	1.5	31	7	135	4.1	2.2	1.5	31	7	135	4.1	2.2	1.5	
8	135	4.1	2.2	1.5	31	8	135	4.1	2.2	1.5	31	8	135	4.1	2.2	1.5	31	8	135	4.1	2.2	1.5	31	8	135	4.1	2.2	1.5	
9	135	4.1	2.2	1.5	31	9	135	4.1	2.2	1.5	31	9	135	4.1	2.2	1.5	31	9	135	4.1	2.2	1.5	31	9	135	4.1	2.2	1.5	
10	135	4.1	2.2	1.5	31	10	135	4.1	2.2	1.5	31	10	135	4.1	2.2	1.5	31	10	135	4.1	2.2	1.5	31	10	135	4.1	2.2	1.5	
11	135	4.1	2.2	1.5	31	11	135	4.1	2.2	1.5	31	11	135	4.1	2.2	1.5	31	11	135	4.1	2.2	1.5	31	11	135	4.1	2.2	1.5	
12	135	4.1	2.2	1.5	31	12	135	4.1	2.2	1.5	31	12	135	4.1	2.2	1.5	31	12	135	4.1	2.2	1.5	31	12	135	4.1	2.2	1.5	
13	135	4.1	2.2	1.5	31	13	135	4.1	2.2	1.5	31	13	135	4.1	2.2	1.5	31	13	135	4.1	2.2	1.5	31	13	135	4.1	2.2	1.5	
14	135	4.1	2.2	1.5	31	14	135	4.1	2.2	1.5	31	14	135	4.1	2.2	1.5	31	14	135	4.1	2.2	1.5	31	14	135	4.1	2.2	1.5	
15	135	4.1	2.2	1.5	31	15	135	4.1	2.2	1.5	31	15	135	4.1	2.2	1.5	31	15	135	4.1	2.2	1.5	31	15	135	4.1	2.2	1.5	
16	135	4.1	2.2	1.5	31	16	135	4.1	2.2	1.5	31	16	135	4.1	2.2	1.5	31	16	135	4.1	2.2	1.5	31	16	135	4.1	2.2	1.5	
17	135	4.1	2.2	1.5	31	17	135	4.1	2.2	1.5	31	17	135	4.1	2.2	1.5	31	17	135	4.1	2.2	1.5	31	17	135	4.1	2.2	1.5	
18	135	4.1	2.2	1.5	31	18	135	4.1	2.2	1.5	31	18	135	4.1	2.2	1.5	31	18	135	4.1	2.2	1.5	31	18	135	4.1	2.2	1.5	
19	135	4.1	2.2	1.5	31	19	135	4.1	2.2	1.5	31	19	135	4.1	2.2	1.5	31	19	135	4.1	2.2	1.5	31	19	135	4.1	2.2	1.5	
20	135	4.1	2.2	1.5	31	20	135	4.1	2.2	1.5	31	20	135	4.1	2.2	1.5	31	20	135	4.1	2.2	1.5	31	20	135	4.1	2.2	1.5	
21	135	4.1	2.2	1.5	31	21	135	4.1	2.2	1.5	31	21	135	4.1	2.2	1.5	31	21	135	4.1	2.2	1.5	31	21	135	4.1	2.2	1.5	
22	135	4.1	2.2	1.5	31	22	135	4.1	2.2	1.5	31	22	135	4.1	2.2	1.5	31	22	135	4.1	2.2	1.5	31	22	135	4.1	2.2	1.5	
23	135	4.1	2.2	1.5	31	23	135	4.1	2.2	1.5	31	23	135	4.1	2.2	1.5	31	23	135	4.1	2.2	1.5	31	23	135	4.1	2.2	1.5	
24	135	4.1	2.2	1.5	31	24	135	4.1	2.2	1.5	31	24	135	4.1	2.2	1.5	31	24	135	4.1	2.2	1.5	31	24	135	4.1	2.2	1.5	
25	135	4.1	2.2	1.5	31	25	135	4.1	2.2	1.5	31	25	135	4.1	2.2	1.5	31	25	135	4.1	2.2	1.5	31	25	135	4.1	2.2	1.5	
26	135	4.1	2.2	1.5	31	26	135	4.1	2.2	1.5	31	26	135	4.1	2.2	1.5	31	26	135	4.1	2.2	1.5	31	26	135	4.1	2.2	1.5	
27	135	4.1	2.2	1.5	31	27	135	4.1	2.2	1.5	31	27	135	4.1	2.2	1.5	31	27	135	4.1	2.2	1.5	31	27	135	4.1	2.2	1.5	
28	135	4.1	2.2	1.5	31	28	135	4.1	2.2	1.5	31	28	135	4.1	2.2	1.5	31	28	135	4.1	2.2	1.5	31	28	135	4.1	2.2	1.5	
29	135	4.1	2.2	1.5	31	29	135	4.1	2.2	1.5	31	29	135	4.1	2.2	1.5	31	29	135	4.1	2.2	1.5	31	29	135	4.1	2.2	1.5	
30	135	4.1	2.2	1.5	31	30	135	4.1	2.2	1.5	31	30	135	4.1	2.2	1.5	31	30	135	4.1	2.2	1.5	31	30	135	4.1	2.2	1.5	
31	135	4.1	2.2	1.5	31	31	135	4.1	2.2	1.5	31	31	135	4.1	2.2	1.5	31	31	135	4.1	2.2	1.5	31	31	135	4.1	2.2	1.5	

ATHENS, GEORGIA 985 MB										BARROW, ALASKA 1021 MB										BATESVILLE, ALASKA 1017 MB										BETHEL, ALASKA 1035 MB										BISHOPCK, N. DAK. 951 MB									
Standard pressure surface (mb)					Resultant Wind					Standard pressure surface (mb)					Standard pressure surface (mb)					Standard pressure surface (mb)					Standard pressure surface (mb)					Standard pressure surface (mb)																			
No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed																				
31	24	16.1	14.3	33	5	27	8	-8.4	-9.1	11	2.1	31	15	-9.8	-10.9	9	2.1	31	39	3.8	5	34	7	31	503	5.7	4.2	01	3																				
1	567	17.7	12.1	27	2.6	27	568	-5.1	-11.6	10	2.5	30	153	-9.1	-9.4	9	2.8	32	130	6.6	0	1	1	1	555	6.2	3.5	13	1																				
2	1029	15.8	8	27	4.3	27	1688	-6.4	-14.2	8	2.1	31	549	-6.7	-10.0	10	2.9	31	502	5.2	-3.3	3	2.3	31	958	7.0	1.1	31	1																				
3	1512	13.1	5.3	27	5.7	27	1446	-6.9	-14.1	9	1.6	31	37	-2.9	-11.7	10	2.5	31	941	2.2	-3.7	3	2.3	31	1429	7.0	1.1	11	1																				
4	2020	10.6	1.6	28	5.0	27	1919	-6.9	-15.1	27	3	31	1429	-4.1	-13.5	07	1.3	31	1399	-2.1	-3.3	3	2.3	31	1429	7.0	1.1	11	1																				
5	2355	1.4	-3.0	29	4.9	27	2420	-9.5	-19.3	28	1.0	31	1905	-6.5	-16.5	29	1.2	31	1482	-4.4	-11.4	14	4.1	31	1820	2.6	-0.1	28	5.1																				
6	3351	4.7	-7.4	29	5.7	27	2950	-12.3	-23.5	29	1.5	31	2467	-9.3	-19.1	30	2.0	31	2386	-7.5	-15.8	12	4.1	31	2440	-6.0	-6.9	28	6.7																				
7	3712	1.4	-11.3	28	5.8	27	3513	-14.5	-27.8	28	1.0	31	2937	-12.6	-23.0	31	2.8	31	2920	-10.7	-19.4	13	4.6	31	2989	-3.4	-10.1	28	8.6																				
8	4362	-2.1	-16.6	8	6.8	27	4113	-15.2	-31.2	8	2.5	31	3499	-16.1	-27.1	31	3.1	31	3486	-14.3	-22.9	13	4.8	31	3572	-6.7	-14.5	28	10.7																				
9	5367	-5.5	-20.3	23	8.3	27	4756	-23.5	-34.7	23	3.7	31	4097	-17.0	-31.3	31	4.0	31	4071	-17.8	-27.2	8	5.2	31	4194	-16.3	-15.7	21	4.9																				
10	5785	-11.5	-24.5	28	9.5	27	5445	-28.2	-38.4	30	4.7	31	4737	-24.4	-34.9	31	4.9	31	4734	-22.0	-32.1	12	5.1	31	4858	-19.9	-23.6	28	15.0																				
11	6585	-16.8	-28.4	28	10.4	27	6193	-33.4	-41.3	31	6.4	31	5424	-29.4	-39.6	32	5.3	31	5429	-26.6	-36.8	17	5.6	31	5573	-19.5	-29.3	27	17.0																				
12	7499	-23.2	-35.0	28	11.5	27	7410	-39.2	-46.3	31	7.6	31	6168	-34.7	-43.7	33	7.0	31	6181	-32.2	-42.0	12	6.0	31	6341	-25.0	-33.7	27	19.4																				
13	8426	-30.2	-42.1	28	13.0	27	7916	-45.4	-52.4	31	7.4	31	6981	-40.6	-45.2	33	7.7	30	7404	-38.3	-46.7	12	5.9	31	7487	-31.0	-42.1	27	21.7																				
14	9502	-38.6	-47.7	29	15.2	27	8426	-51.7	-57.7	31	9.6	31	7881	-46.5	-52.3	33	9.6	30	7913	-44.5	-50.5	12	5.5	30	8123	-37.9	-45.9	27	23.9																				
15	10729	-48.2	-56.7	28	16.4	27	10100	-53.9	-59.9	31	11.2	31	8849	-51.9	-57.9	33	9.8	30	8929	-50.6	-56.6	12	5.4	30	9166	-45.1	-51.1	27	26.1																				
16	11766	-58.7	-67.9	28	18.6	27	11546	-60.8	-66.8	31	13.6	31	10067	-52.1	-58.1	33	7.4	30	10108	-53.5	-59.5	12	4.7	30	10367	-51.3	-57.3	27	28.2																				
17	12795	-69.3	-78.9	28	19.6	27	12438	-69.0	-75.0	31	5.0	31	11522	-68.4	-74.4	32	4.4	30	11551	-50.7	-56.7	13	2.2	30	11864	-54.8	-60.8	27	25.8																				
18	13839	-66.7	-76.7	28	17.5	27	13434	-68.6	-74.6	31	3.1	31	12438	-68.4	-74.4	32	4.4	30	12440	-60.5	-66.5	17	1.7	30	12655	-60.5	-66.5	27	23.2																				
19	15051	-65.2	-75.2	28	14.5	25	14661	-68.6	-74.6	32	2.1	30	14623	-67.8	-73.8	32	2.3	30	14630	-60.9	-66.9	19	1.6	30	14812	-55.5	-61.5	27	16.9																				
20	16099	-65.9	-75.9	28	11.3	24	16110	-68.3	-74.3	33	1.6	30	16096	-67.6	-73.6	33	1.6	3	16088	-50.1	-56.1	19	1.6	30	16239	-55.5	-61.5	27	11.1																				
21	17764	-65.2	-75.2	28	6.9	25	17582	-67.6	-73.6	02	1.0	29	17568	-67.3	-73.3	01	1.7	30	17546	-50.1	-56.1	12	1.9	29	17657	-56.3	-62.3	27	7.9																				
22	18956	-61.3	-71.3	30	3.6	25	18463	-67.3	-73.3	06	1.3	29	18453	-66.8	-72.8	06	1.2	30	18419	-50.1	-56.1	12	1.0	28	18507	-55.7	-61.7	27	4.9																				
23	19929	-61.3	-71.3	30	1.6	24	19484	-66.8	-72.8	07	2.0	28	19472	-66.7	-72.7	08	1.2	19	19428	-50.0	-56.0	19	1.9	28	19492	-54.6	-60.6	27	2.8																				
24	20952	-58.7	-68.7	27	2.1	15	20701	-66.2	-72.2	08	3.0	27	20683	-66.4	-72.4	09	2.4	28	20655	-46.6	-52.6	19	1.5	27	20655	-46.6	-52.6	27	1.5																				
25	22076	-55.3	-65.3	27	2.6	20	22202	-66.1	-72.1	07	3.0	27	22116	-66.4	-72.4	08	2.9	29	22081	-46.9	-52.9	19	1.6	24	22094	-52.5	-58.5	19	4.3																				
26	23913	-52.7	-62.7	29	3.8	19	24115	-65.6	-71.6	08	4.2	27	24078	-65.1	-71.1	09	4.4	28	23968	-49.4	-55.4	09	3.2	23	23960	-51.1	-57.1	27	1.3																				
27	25848	-51.2	-61.2	28	3.5	11	25352	-64.8	-70.8	24	2.5	28	25167	-65.6	-71.6	08	5.0	28	25165	-46.9	-52.9	09	4.4	21	25145	-49.5	-55.5	27	1.6																				
28	26942	-49.0	-59.0	10	3.1					27	2.6	27	26769	-64.7	-70.7	09	5.7	28	26643	-47.0	-53.0	09	5.5	19	26616	-47.4	-53.4	27	3.0																				
29	28981	-45.6	-55.6	11	2.0					22	2.8	28	28699	-43.5	-49.5	08	6.6	29	28565	-44.9	-50.9	08	5.5	19	28529	-39.4	-45.4	27	3.5																				
30	31127	-41.5	-51.5							21	3.4	28	31466	-39.8	-45.8	08	6.2	31	31307	-41.1	-47.1	08	9.1	19	31259	-39.4	-45.4	27	5.2																				
31										7	3.9	22	39322	-36.8	-42.8										33	37738	-34.6	-40.6	09	5.2																			
32																										36	39194	-29.0	-35.0	09	5.2																		

Average monthly values

MAY 1974

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RAWINSONDE DATA

Average monthly values

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RANGE POINT, N. H. 448 MB										GREAT FALLS, N. H. 448 MB										GREENSBORO, N. C. 987 MB										GREENSBORO, N. C. 987 MB										GREENSBORO, N. C. 987 MB									
Standard pressure surface (mb)										Standard pressure surface (mb)										Standard pressure surface (mb)										Standard pressure surface (mb)										Standard pressure surface (mb)									
No of observations										No of observations										No of observations										No of observations										No of observations									
Dynamic height										Dynamic height										Dynamic height										Dynamic height										Dynamic height									
Temperature										Temperature										Temperature										Temperature										Temperature									
Dew Point										Dew Point										Dew Point										Dew Point										Dew Point									
Direction										Direction										Direction										Direction										Direction									
Speed										Speed										Speed										Speed										Speed									
No of observations										No of observations										No of observations										No of observations										No of observations									
Dynamic height										Dynamic height										Dynamic height										Dynamic height										Dynamic height									
Temperature										Temperature										Temperature										Temperature										Temperature									
Dew Point										Dew Point										Dew Point										Dew Point										Dew Point									
Direction										Direction										Direction										Direction										Direction									
Speed										Speed										Speed										Speed										Speed									
5	14472	11.6	22.9	17	2.6	3	1	11.1	1.4	2.8	210	8.7	3.1	34	5.3	3	1	1	1	275	14.5	12.4	24	11	31	23	10.8	17	10.4	31	132	12.3	10.1	17	10.3	31	132	12.3	10.1	17	10.3								
98	14472	11.6	22.9	17	2.6	3	1	11.1	1.4	2.8	210	8.7	3.1	34	5.3	3	1	1	1	275	14.5	12.4	24	11	31	23	10.8	17	10.4	31	132	12.3	10.1	17	10.3	31	132	12.3	10.1	17	10.3								
99	14472	11.6	22.9	17	2.6	3	1	11.1	1.4	2.8	210	8.7	3.1	34	5.3	3	1	1	1	275	14.5	12.4	24	11	31	23	10.8	17	10.4	31	132	12.3	10.1	17	10.3	31	132	12.3	10.1	17	10.3								
750	14472	11.6	22.9	17	2.6	3	1	11.1	1.4	2.8	210	8.7	3.1	34	5.3	3	1	1	1	275	14.5	12.4	24	11	31	23	10.8	17	10.4	31	132	12.3	10.1	17	10.3	31	132	12.3	10.1	17	10.3								
700	14472	11.6	22.9	17	2.6	3	1	11.1	1.4	2.8	210	8.7	3.1	34	5.3	3	1	1	1	275	14.5	12.4	24	11	31	23	10.8	17	10.4	31	132	12.3	10.1	17	10.3	31	132	12.3	10.1	17	10.3								
650	14472	11.6	22.9	17	2.6	3	1	11.1	1.4	2.8	210	8.7	3.1	34	5.3	3	1	1	1	275	14.5	12.4	24	11	31	23	10.8	17	10.4	31	132	12.3	10.1	17	10.3	31	132	12.3	10.1	17	10.3								
600	14472	11.6	22.9	17	2.6	3	1	11.1	1.4	2.8	210	8.7	3.1	34	5.3	3	1	1	1	275	14.5	12.4	24	11	31	23	10.8	17	10.4	31	132	12.3	10.1	17	10.3	31	132	12.3	10.1	17	10.3								
550	14472	11.6	22.9	17	2.6	3	1	11.1	1.4	2.8	210	8.7	3.1	34	5.3	3	1	1	1	275	14.5	12.4	24	11	31	23	10.8	17	10.4	31	132	12.3	10.1	17	10.3	31	132	12.3	10.1	17	10.3								
500	14472	11.6	22.9	17	2.6	3	1	11.1	1.4	2.8	210	8.7	3.1	34	5.3	3	1	1	1	275	14.5	12.4	24	11	31	23	10.8	17	10.4	31	132	12.3	10.1	17	10.3	31	132	12.3	10.1	17	10.3								
450	14472	11.6	22.9	17	2.6	3	1	11.1	1.4	2.8	210	8.7	3.1	34	5.3	3	1	1	1	275	14.5	12.4	24	11	31	23	10.8	17	10.4	31	132	12.3	10.1	17	10.3	31	132	12.3	10.1	17	10.3								
400	14472	11.6	22.9	17	2.6	3	1	11.1	1.4	2.8	210	8.7	3.1	34	5.3	3	1	1	1	275	14.5	12.4	24	11	31	23	10.8	17	10.4	31	132	12.3	10.1	17	10.3	31	132	12.3	10.1	17	10.3								
350	14472	11.6	22.9	17	2.6	3	1	11.1	1.4	2.8	210	8.7	3.1	34	5.3	3	1	1	1	275	14.5	12.4	24	11	31	23	10.8	17	10.4	31	132	12.3	10.1	17	10.3	31	132	12.3	10.1	17	10.3								
300	14472	11.6	22.9	17	2.6	3	1	11.1	1.4	2.8	210	8.7	3.1	34	5.3	3	1	1	1	275	14.5	12.4	24	11	31	23	10.8	17	10.4	31	132	12.3	10.1	17	10.3	31	132	12.3	10.1	17	10.3								
250	14472	11.6	22.9	17	2.6	3	1	11.1	1.4	2.8	210	8.7	3.1	34	5.3	3	1	1	1	275	14.5	12.4	24	11	31	23	10.8	17	10.4	31	132	12.3	10.1	17	10.3	31	132	12.3	10.1	17	10.3								
200	14472	11.6	22.9	17	2.6	3	1	11.1	1.4	2.8	210	8.7	3.1	34	5.3	3	1	1	1	275	14.5	12.4	24	11	31	23	10.8	17	10.4	31	132	12.3	10.1	17	10.3	31	132	12.3	10.1	17	10.3								
150	14472	11.6	22.9	17	2.6	3	1	11.1	1.4	2.8	210	8.7	3.1	34	5.3	3	1	1	1	275	14.5	12.4	24	11	31	23	10.8	17	10.4	31	132	12.3	10.1	17	10.3	31	132	12.3	10.1	17	10.3								
100	14472	11.6	22.9	17	2.6	3	1	11.1	1.4	2.8	210	8.7	3.1	34	5.3	3	1	1	1	275	14.5	12.4	24	11	31	23	10.8	17	10.4	31	132	12.3	10.1	17	10.3	31	132	12.3	10.1	17	10.3								
50	14472	11.6	22.9	17	2.6	3	1	11.1	1.4	2.8	210	8.7	3.1	34	5.3	3	1	1	1	275	14.5	12.4	24	11	31	23	10.8	17	10.4	31	132	12.3	10.1	17	10.3	31	132	12.3	10.1	17	10.3								
0	14472	11.6	22.9	17	2.6	3	1	11.1	1.4	2.8	210	8.7	3.1	34	5.3	3	1	1	1	275	14.5	12.4	24	11	31	23	10.8	17	10.4	31	132	12.3	10.1	17	10.3	31	132	12.3	10.1	17	10.3								

Average monthly values

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Average monthly values

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Average monthly values

* TUCSON, AZ, 92. MB										* WINTERBURG AFB, CALIF. 1004 MB										* VICTORIA, TEXAS 1006 MB										* AKAE IS., PACIFIC AREA 1015 MB										* WALLPUS IS., VA. NASA 1015 MB									
S	F400	31	789	16.3	-4.7	14	2.3	3	100	9.0	7.6	32	.9	31	33	21.8	10.4	12	1.2	3	5	25.9	22.2	07	7.0	31	4	14.7	12.4	01	.6																		
450									28	100	133	9.0	7.6	32	1.5	30	92	23.0	22.2	15	2.3	14	25.6	21.5	08	7.4	31	1	126	15.3	9.30	30	.																
950									4	557	10	6.5	5.35	4	5	35	5	19.0	18.1	1	6	34	589	19.9	18	7.4	31	5	56	7.2	27	2	.																
950	3	988	20.5	-2.1	18	1.8	30	1,011	14.0	-2.3	35	5.0	31	1,003	18.3	14.1	8	7.1	30	1,057	15.8	15.1	09	7.2	31	1,015	11.8	3.5	28	3.4																			
950	3	1,479	17.9	-4.5	23	2.6	30	1,492	13.2	-5.4	34	5.0	31	1,493	16.9	7.7	19	6.0	30	1,546	15.3	11.3	09	6.7	31	1,492	9.8	1.1	27	5.1																			
800	3	1,995	14.6	-7.0	24	2.9	30	2,000	10.6	-10.6	32	5.1	31	2,009	14.7	0	20	6.4	30	2,059	13.6	6.5	08	6.0	31	1,994	7.2	-1.4	27	6.9																			
700	3	2,536	10.9	-9.7	24	3.9	30	2,534	8.1	-8.9	33	5.1	31	2,552	12.2	-5.2	24	3.2	30	2,501	10.9	7	08	5.2	31	2,523	4.3	-4.4	28	8.3																			
700	3	3,010	12.1	-12.9	23	4.9	30	3,100	4.8	-14.2	31	4.0	31	3,126	8.5	-8.7	27	2.5	30	3,177	8.3	-5.6	08	3.1	31	3,010	1.1	-10.9	28	10.2																			
500	3	3,777	3.3	-15.8	23	6.5	30	3,776	1.6	-17.6	29	5.4	31	3,735	4.7	-13.3	3	3.0	30	3,783	5.9	-9.0	08	3.7	31	3,676	-.9	-15.8	27	11.5																			
500	3	4,355	-1.2	-19.0	23	8.5	30	4,338	-3.2	-20.9	29	5.4	31	4,362	4.4	-17.0	29	4.7	30	4,433	1.9	-13.0	09	3.5	31	4,311	-4.2	-18.8	27	12.6																			
550	3	5,782	-5.9	-23.5	23	9.6	30	5,621	-7.6	-25.1	28	6.6	31	5,073	-4.7	-20.4	29	5.5	30	5,130	-2.2	-18.7	08	3.5	31	4,991	-8.5	-22.3	26	14.1																			
550	3	5,781	-11.4	-24.2	24	10.2	30	5,755	-12.7	-29.3	28	6.8	31	5,816	-9.4	-25.9	28	6.0	30	5,851	-6.6	-23.2	08	2.8	31	5,724	-13.5	-27.9	27	15.9																			
400	3	6,580	-17.7	-31.8	24	11.3	30	6,550	-18.5	-34.8	28	7.4	31	6,623	-14.7	-31.8	28	7.7	30	6,696	-11.7	-27.6	07	2.1	31	6,517	-18.9	-32.5	27	17.6																			
400	3	7,451	-31.0	-37.8	24	12.3	30	7,451	-31.0	-40.0	27	7.4	31	7,503	-26.6	-36.6	28	7.9	30	7,587	-24.7	-33.2	07	2.1	31	7,338	-31.1	-36.7	27	20.9																			
300	3	8,414	-31.6	-44.0	24	13.1	30	8,375	-37.7	-44.1	29	7.8	30	8,481	-28.3	-42.3	28	11.9	30	8,572	-25.5	-39.6	34	3.1	31	8,343	-32.1	-42.9	27	20.8																			
300	3	9,403	-40.0	-50.2	25	16.0	30	9,439	-41.1	-51.8	29	9.0	29	9,568	-36.6	-48.9	28	13.7	30	9,668	-34.0	-46.7	30	5.8	31	9,410	-43.3	-50.0	27	22.7																			
250	3	10,704	-69.2		25	18.0	30	10,655	-49.8		28	10.6	29	10,807	-45.9		28	17.9	30	10,920	-43.8		29	10.0	31	10,629	-69.7		27	25.6																			
250	3	12,137	-58.3		26	22.5	31	12,095	-58.7		27	10.1	30	12,175	-57.1		28	20.7	35	12,281	-55.4		28	14.5	31	12,058	-58.6		28	27.1																			
200	3	12,971	-61.5		26	23.0	30	12,917	-61.7		27	10.9	29	13,090	-62.0		28	21.5	30	13,220	-61.7		28	15.0	31	12,892	-61.4		27	23.7																			
150	3	13,921	-68.6		26	25.0	30	13,871	-62.1		26	11.2	29	14,033	-62.1		28	18.0	30	14,160	-68.1		28	15.3	31	13,864	-62.9		27	20.9																			
125	3	15,040	-64.2		25	19.1	30	14,998	-62.3		24	9.6	29	15,133	-68.1		27	15.1	29	15,241	-73.8		28	9.8	31	14,968	-62.3		27	17.5																			
100	3	16,399	-65.9		25	13.1	30	16,373	-63.1		25	9.0	29	16,466	-70.2		28	10.6	29	16,529	-77.4		33	3.1	31	16,343	-63.0		27	12.8																			
70	3	17,752	-66.4		25	5.4	30	17,748	-62.6		26	5.2	29	17,794	-69.5		27	4.0	28	17,814	-76.6		06	3.0	31	17,720	-61.9		28	7.6																			
70	3	18,503	-65.0		26	3.4	30	18,572	-62.4		26	2.5	29	18,594	-67.7		27	6.2	28	18,589	-73.1		07	5.8	31	18,549	-60.9		28	4.2																			
60	3	19,509	-62.1		27	1.4	30	19,528	-60.1		26	1.7	28	19,530	-64.6		29	2.5	29	19,505	-67.5		09	4.6	31	19,506	-59.5		28	3.1																			
40	3	20,663	-59.3		10	1.9	29	20,675	-60.1		10	2.4	28	20,675	-60.1		09	7.6	29	20,617	-67.7		09	7.6	29	20,655	-60.9		28	2.1																			
40	3	22,352	-55.9		09	3.6	28	22,290	-55.7		08	2.4	27	22,262	-57.0		09	7.25	22,205	-59.1		09	10.12	28	22,079	-55.0		07	2.1																				
30	3	23,876	-52.0		09	3.6	28	23,935	-53.0		08	2.4	27	23,903	-52.4		08	5.8	25	23,831	-51.4		09	14.4	27	23,924	-52.6		09	3.0																			
30	3	25,077	-51.8		09	3.7	26	25,116	-51.5		08	3.6	25	25,085	-50.2		08	4.6	25	25,081	-51.4		09	15.7	26	25,102	-51.0		07	2.8																			
20	3	26,500	-48.0		09	3.4	26	26,571	-49.2		09	2.4	18	26,543	-48.4		09	3.3	25	26,470	-47.9		09	15.2	26	26,572	-48.3		08	3.1																			
20	3	28,445	-45.1		05	1.1	26	28,468	-45.1		07	1.6	18	28,462	-45.1		10	2.8	25	28,491	-46.9		09	18.1	27	28,512	-44.5																						
10	3	31,328	-41.0			2	21	31,261	-45.5		07	1.1	18	31,261	-45.5					31,333	-40.7																												

Average monthly values

MAY 1974

[illegible]

SOLAR RADIATION INTENSITIES

Tabulated in langleys per minute on a surface normal to the direction of the sun.

MAY 1974

Sun's zenith distance										Sun's zenith distance									
Date	A. M.				*	P. M.				Date	A. M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°		78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
ALBUQUERQUE, N. M.										MADISON, WIS.									
Air mass										Air mass									
	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19		4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
1-----	.69	---	---	---	1.35	---	1.01	.87	.78	1-----	---	S .91	S 1.03	S 1.18	S 1.36	---	---	---	---
2-----	.86	.95	1.09	1.26	1.41	1.26	1.07	.93	.82	3-----	---	---	---	---	S 1.37	S 1.15	---	S .77	S .66
3-----	.70	.81	.96	1.16	1.39	---	---	---	---	4-----	M .71	M .81	---	---	---	---	---	---	---
4-----	(.80)	---	(1.00)	1.20	---	---	(1.05)	---	(.81)	6-----	S .80	S .90	S 1.05	S 1.20	---	---	---	---	---
5-----	.69	.79	.95	1.11	1.34	---	---	---	---	23-----	.76	---	---	---	---	---	---	---	---
6-----	.73	.84	.98	1.14	1.38	1.12	.93	---	---	25-----	S .79	S .89	S 1.01	S 1.15	---	---	---	---	---
7-----	.78	.89	1.02	1.19	1.37	1.15	.99	.86	.74	Aver-	---	---	---	---	---	---	---	---	---
8-----	.72	.84	.97	1.14	1.37	---	---	---	---	ages	.77	.88	1.03	1.18	1.37	1.15	---	.77	.66
9-----	---	---	.94	1.16	1.39	1.11	---	.79	.64										
10-----	.57	.74	.93	1.08	1.28	1.10	.88	.74	.59										
11-----	.72	.81	.97	1.14	1.28	---	---	---	---										
12-----	---	(.97)	---	---	1.44	---	---	---	---										
13-----	---	---	(.89)	1.11	(1.37)	1.13	.95	.84	.73										
14-----	.84	.97	1.07	1.22	1.43	1.09	.82	.70	.57										
15-----	.86	.97	1.09	1.25	---	---	---	---	---										
16-----	.87	1.00	1.10	1.25	1.40	---	---	---	---										
17-----	---	---	1.12	1.26	---	---	---	---	---										
18-----	.99	1.09	1.18	1.32	1.45	---	1.14	1.03	.95										
19-----	.98	1.04	1.15	1.30	1.47	1.28	1.11	1.01	.92										
20-----	---	---	---	(1.26)	---	---	---	---	---										
21-----	.72	.83	.94	1.09	(1.34)	---	---	---	---										
22-----	.76	.86	1.01	1.18	1.42	1.11	.88	.79	.67										
23-----	---	---	---	1.21	1.41	1.21	1.03	---	---										
24-----	.79	.87	.99	1.17	1.38	---	---	---	---										
25-----	---	---	---	---	1.25	1.11	1.02	.93	---										
26-----	.69	.76	.86	1.01	---	---	---	---	---										
Aver-	.78	.89	1.02	1.18	1.39	1.16	.99	.87	.76										
ages																			
MAUNA LOA OBSERVATORY, HAWAII										TUCSON, ARIZ.									
Air mass										Air mass									
	3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36		4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
1-----	---	---	---	---	---	1.40	1.28	1.19	1.10	1-----	.73	.85	.99	1.13	1.43	1.16	1.04	.90	.78
2-----	1.11	1.19	---	1.41	1.54	---	---	---	---	2-----	.80	.92	1.05	1.20	1.42	1.19	1.04	.90	.80
3-----	1.07	1.15	1.23	1.36	---	---	---	---	---	3-----	.75	.86	1.01	1.19	---	1.24	---	.93	---
4-----	1.09	1.18	1.28	1.41	---	---	---	---	---	4-----	.84	.96	1.08	1.24	1.43	1.21	1.06	.92	.80
5-----	1.13	1.20	1.30	1.42	---	---	---	---	---	5-----	.74	.91	1.03	1.21	1.41	1.18	1.00	.88	.77
6-----	1.14	1.21	1.31	1.42	---	---	1.25	1.15	1.06	6-----	.74	.85	.97	1.17	---	---	---	---	---
7-----	1.15	1.23	1.32	1.43	1.57	1.40	1.29	1.20	1.10	7-----	.55	---	---	---	1.36	1.06	.83	.69	.59
8-----	---	---	---	---	---	1.39	1.26	1.16	1.06	8-----	---	---	---	1.04	1.29	1.03	.80	.63	---
9-----	---	1.16	1.28	1.37	---	---	---	---	---	9-----	.62	.73	.87	1.06	1.33	1.06	.88	.76	.65
10-----	1.08	1.17	1.22	1.36	---	---	---	---	---	10-----	---	.74	.87	1.06	1.29	1.10	.93	.80	.70
11-----	1.10	1.23	1.32	1.42	---	---	---	---	---	11-----	.76	.88	1.00	1.14	1.36	1.13	.95	.82	.71
12-----	---	---	---	1.40	---	---	---	---	---	12-----	.66	.77	.89	1.09	1.32	1.19	1.01	.93	.82
13-----	---	---	---	---	---	---	---	---	---	13-----	---	.94	---	---	1.22	---	---	.94	.83
14-----	---	---	---	---	---	---	---	---	---	14-----	.84	.95	1.06	1.22	1.45	1.25	1.09	.97	.86
15-----	---	---	---	---	---	---	---	---	---	15-----	.88	1.00	1.11	1.26	1.43	1.22	1.00	.87	.78
16-----	---	---	---	---	---	---	---	---	---	16-----	.82	.93	1.06	1.21	1.43	1.20	1.02	.89	.79
17-----	---	---	---	---	---	---	---	---	---	17-----	---	---	1.15	1.23	---	1.24	1.09	.96	.89
18-----	---	---	---	---	---	---	---	---	---	18-----	.70	.81	.96	1.13	---	1.12	.97	.80	.69
19-----	---	---	---	---	---	---	---	---	---	19-----	---	---	1.07	1.17	1.36	1.18	1.05	.90	.80
20-----	---	---	---	---	---	---	---	---	---	20-----	.91	1.02	1.12	1.28	1.51	1.30	1.13	1.02	.89
21-----	---	---	---	---	---	---	---	---	---	21-----	.93	1.04	1.12	1.25	1.50	---	1.16	1.01	.94
22-----	---	---	---	---	---	---	---	---	---	22-----	.88	.98	1.09	1.26	1.48	1.21	1.05	.92	.81
23-----	---	---	---	---	---	---	---	---	---	23-----	.81	.93	---	---	1.40	1.17	1.00	.87	.76
24-----	---	---	---	---	---	---	---	---	---	24-----	.78	.89	1.03	1.19	1.39	1.09	.90	.76	.65
25-----	---	---	---	---	---	---	---	---	---	25-----	.74	.85	.98	1.15	1.39	1.19	1.05	.94	.83
26-----	---	---	---	---	---	---	---	---	---	26-----	.80	.89	1.02	1.17	1.40	1.20	1.09	.93	.79
27-----	---	---	---	---	---	---	---	---	---	27-----	.80	.89	1.04	1.18	1.36	1.25	1.13	1.06	.99
28-----	---	---	---	---	---	---	---	---	---	28-----	.98	1.06	1.16	1.28	1.45	1.29	1.10	1.03	.92
29-----	---	---	---	---	---	---	---	---	---	29-----	.96	1.06	1.19	1.34	1.49	1.30	1.14	1.04	.94
30-----	---	---	---	---	---	---	---	---	---	30-----	---	---	---	---	---	---	---	---	---
31-----	---	---	---	---	---	---	---	---	---	31-----	.96	1.06	1.19	1.34	1.49	1.30	1.14	1.04	.94
Aver-										Aver-	.79	.91	1.04	1.19	1.40	1.18	1.02	.90	.80
ages										ages									
NO DATA RECEIVED																			

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears

in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication

NET RADIATION

Net radiation in langbeys per day (8 a.m. to 8 a.m.) at Palmer, Alaska.

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langbeys	197	101	212	238	202	207	226	260	138	267	246	165	189	192	201	264	141	259	235	166	264	254	210	219	244	267	186	168	247	174	222	209

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average (0000-2400) at Palmer, Alaska.

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langbeys																																
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TOTAL OZONE DATA

These total ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code 88222.

Units: milliohm-cm.

Station	Day of month																															Mean
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	

REFERENCE NOTES

OBSERVED INTERVALS OF TEMPERATURE AND PRECIPITATION -- BY STATES

Dates in the table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations.)

- + And also on an earlier date or dates.
- D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch of water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA - METRIC UNITS: Data from airport unless otherwise specified.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile data can be evaluated.

- B Number of days maximum 21.1°C. or above for Alaskan Stations.
- V Peak Gust
- + And also on an earlier date or dates.
- U Indicates Urban site.
- R Indicates Rural site.
- Ø Station pressures apply to elevations shown in the "Elevations" table of the annual issue of this publication.

Conversion formulae to English Units are as follows:

1 foot = 0.3048 meters
 1. = 9 x 10⁻³ 32
 1 inch = 25.4 millimeters
 1 mile per hour = 0.447 meters per second

HEATING DEGREE DAYS: Data from airport unless otherwise specified.

- U Indicates Urban site.
- R Indicates Rural site.

COOLING DEGREE DAYS: Data from airport unless otherwise specified.

- U Indicates Urban site.
- R Indicates Rural site.

STORM SUMMARY:

- ° Includes crop damage.
- C Crop damage.
- * No occurrence of storms or unusual weather phenomena reported.
- @ Includes heavy sleet storm.
- # Freezing drizzle and freezing rain, commonly known as glaze.
- Ø For breakdown of "All Others," and for detailed listing of other storms, see the Environmental Data Service, NOAA, monthly publication, STORM DATA.
- ± No Storm Data Report received for this State.
- <> Report Incomplete.
- † Storm damages are placed in categories varying from 1 to 9 as follows:
 - 1 Less than \$50
 - 2 \$50 to \$500
 - 3 \$500 to \$5,000
 - 4 \$5,000 to \$50,000
 - 5 \$50,000 to \$500,000
 - 6 \$500,000 to \$5 Million
 - 7 \$5 Million to \$50 Million
 - 8 \$50 Million to \$500 Million
 - 9 \$500 Million to \$5 Billion.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS:

- 1/ Flooding continued at the end of the month.
- NA Not available.

FLOOD STAGE DATA:

- # Highest Stage Observed
- 1/ Continued at end of month
- Highest Stage of Record
- E Estimated
- P Provisional (Flood Stage)
- U Unknown

RAWINSONDE DATA (Average Monthly Values):

All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygrometers. These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

- * Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.
- + Observations for these stations are scheduled at 0000 G.C.T.
- † Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

SOLAR RADIATION INTENSITIES: Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

()	Clouds Present	DM	Moderate Dust	HM	Moderate Haze	KS	Slight Smoke
*	Values corresponding to true solar noon	DS	Slight Dust	HS	Slight Haze	M	Moderate Haze-indeter-
BD	Blowing Dust	F	Fog	I	Intense Haze-indeterminable		minable
BN	Blowing Sand	CF	Ground Fog	K	Smoke	N	Sand
D	Dust	H	Haze	KI	Intense Smoke	S	Slight Haze-indeter-
DI	Intense Dust	HI	Intense Haze	KM	Moderate Smoke		minable

NET RADIATION: The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the NOAA, National Weather Service.

SOLAR ULTRA-VIOLET RADIATION DATA: These data are from an U-V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. This instrument has not been checked by the NOAA, National Weather Service.

TOTAL OZONE DATA: The spectrophotometer measures the total amount of ozone in the atmosphere, i.e., the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded *Q Q Q*) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e.g., 350 milli-atmos cm ozone implies an ozone layer 0.350 centimeter thick. The code *λ S* designates the type of measurement made.

Chart 1. A. Normal Daily Average Temperature (°F. 1941-70), May.



B. Temperature Departure from 30 - Year Mean (°F 1941-70), May 1974

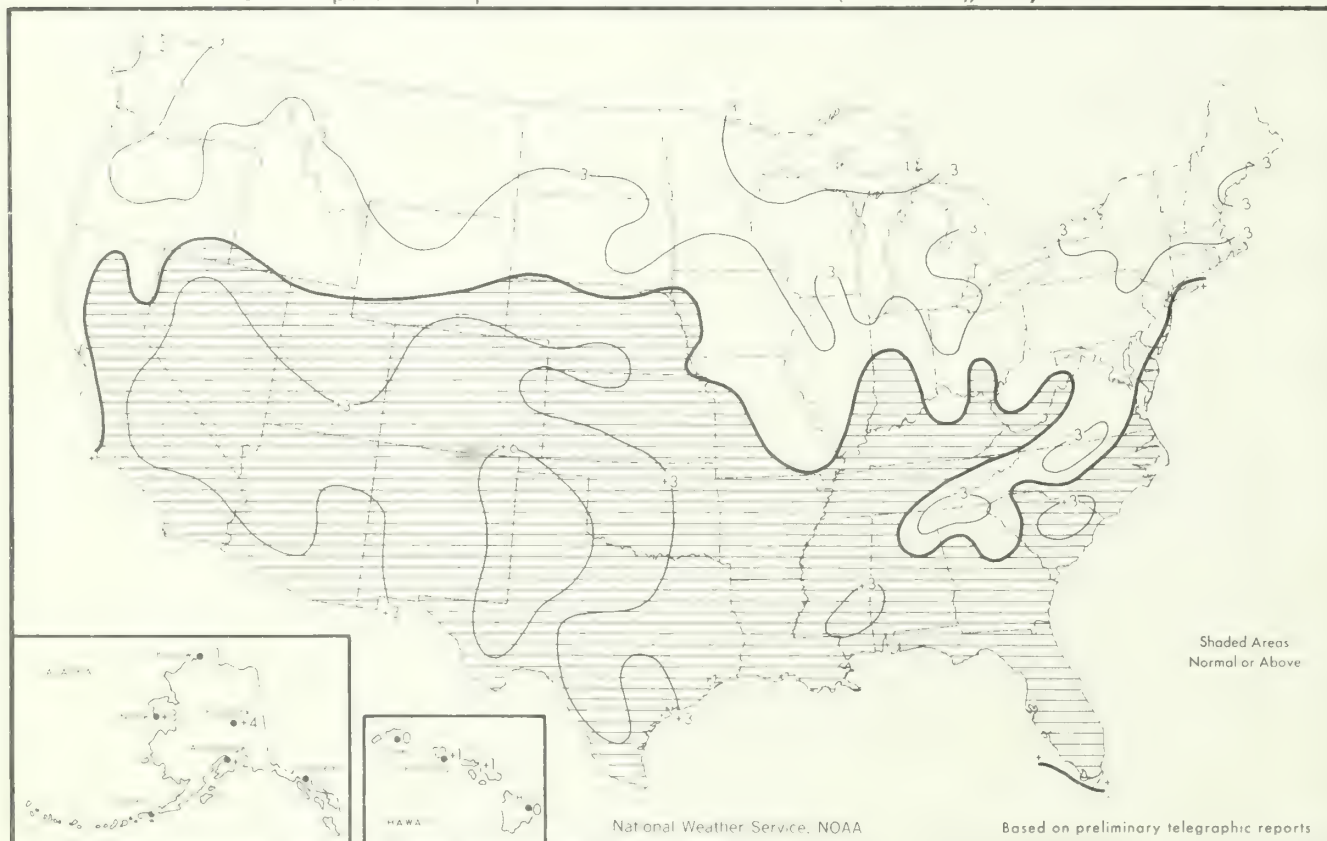


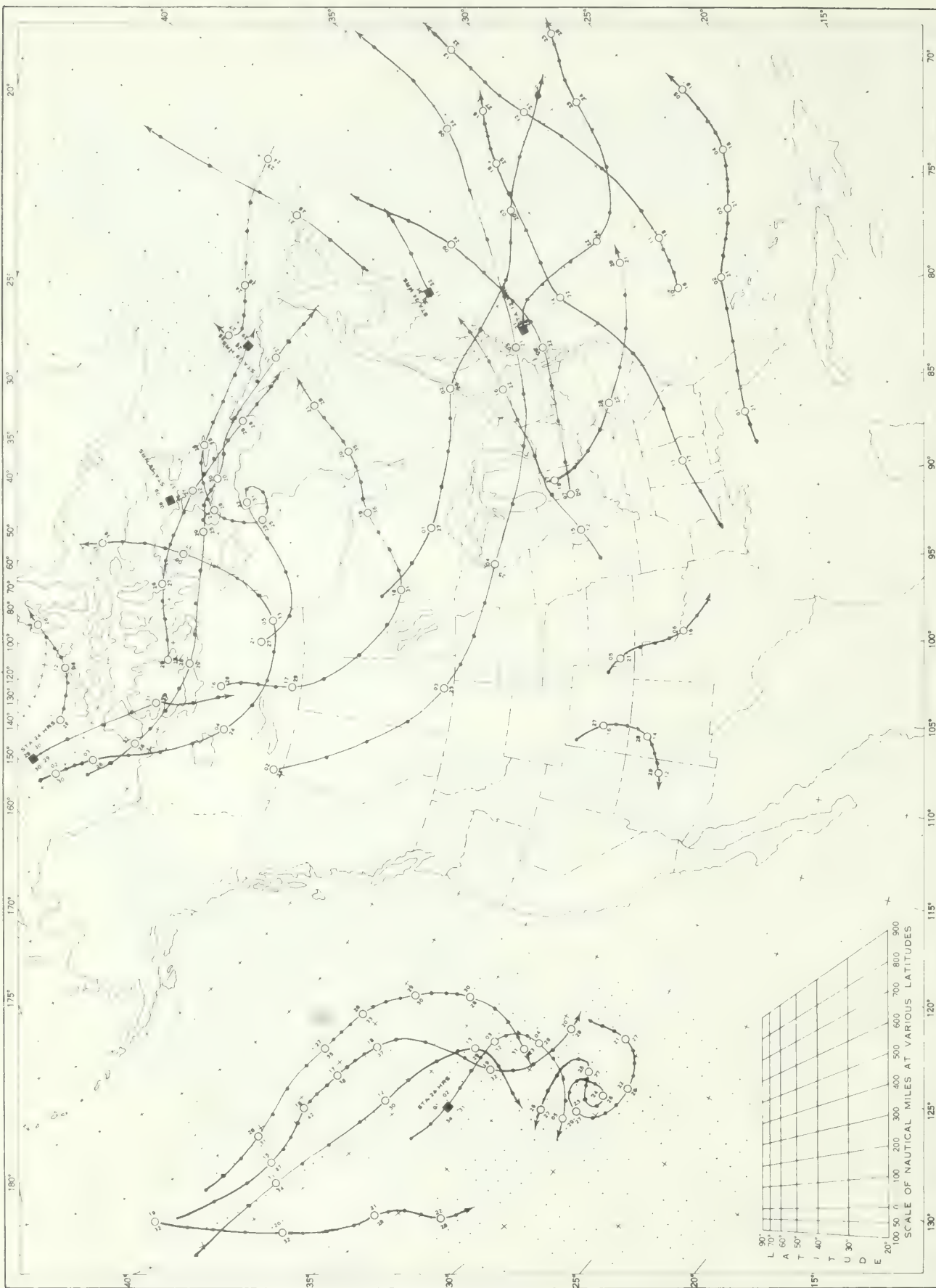
Chart II. A. Total Precipitation (Inches), May 1974



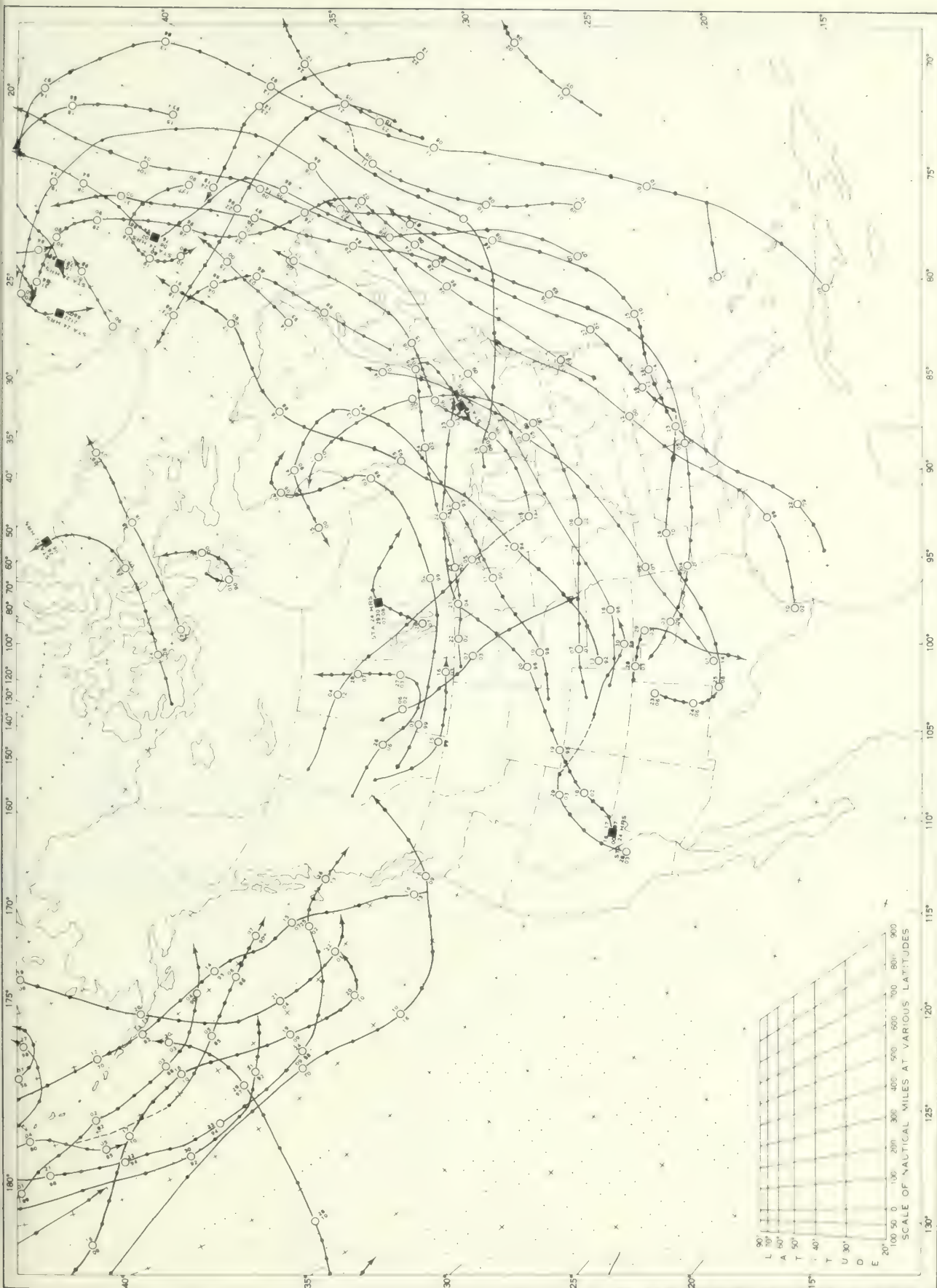
B. Percentage of Normal Precipitation, May 1974



Chart III. Tracks of Centers of Anticyclones at Sea Level, May 1974



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar.
Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Environmental Data Service



JUNE
1974

Volume 25

No. 6

Chapel Hill, N.C.

Effective January 1, 1975 there will be a price increase for this publication as a result of increased labor, material and postage costs. New prices are: Subscription price \$8.85 per year for each section including annual summary; \$7.75 additional for foreign mailing; 60 cents single copy; \$1.65 annual summary.

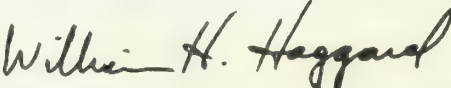
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NOTE: Late reports and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

SUBSCRIPTION PRICE: \$5.50 a year including annual summary; \$1.00 additional for foreign mailing; 40¢ single copy; \$1.00 annual summary. Make checks payable to Department of Commerce, NOAA; send payments and orders to: National Climatic Center, Federal Building, Asheville, N. C. 28801. Attn: Publications.

I certify that this is an official publication of the National Oceanic and Atmospheric Administration and is compiled from records on file at the National Climatic Center, Asheville, North Carolina 28801


 Director, National Climatic Center

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

JUNE 1974

GENERAL SUMMARY OF WEATHER CONDITIONS

Dr. Richard E. Felch, Climatologist

HIGHLIGHTS:

1. The western half of the Nation was exceptionally dry except for a portion of the central Great Plains. Over the eastern half of the Country moisture was highly variable. Southern Florida received very heavy rains, particularly late in the month. The southern half of Arkansas received over twice the normal June rainfall. Northern Illinois and parts of Iowa and Indiana very wet. Alabama was dry.
2. Temperatures were above to well above normal west of the Plains, but well below normal to the East. Parts of Missouri and Arkansas, and Alabama, Tennessee and Kentucky were 6° below normal. A band extending from western Montana to Arizona averaged 6° or more above normal.

PRECIPITATION: Most western States were very dry during June. No precipitation fell in an area that included Arizona and Nevada, and parts of southern Utah and southern California. Except for the Washington Coast and the northern Sacramento Valley, precipitation was less than 25% of normal.

The month began with a major storm extending from the upper Great Lakes into Texas. Tornadoes, thunderstorms, high winds, and torrential rains struck 15 States. Flash floods occurred in Louisiana, Arkansas, Kansas, Oklahoma, Missouri, and Texas. Tornadoes were reported in north central Texas, Liberal, Kans., Aberdeen, S. D., and Fargo, N. D. Some totals for the week ending the 9th included Fort Worth, Texas 4.61 inches; Shreveport, La., 6.40 inches; and, Tulsa, Okla., 7.75 inches.

The weather was generally drier during the rest of the month in most localities. Heavy precipitation during the second week were scattered and associated with thunderstorms.

Violent weather struck portions of Iowa on the 18th.

A tornado damaged Ankeny, just north of Des Moines. Nearby Ames reported 3 inches of hail and 3 feet of water in the streets.

During this week tropical storm-like rains deluged central Florida. Totals in the Florida corridor included: Orlando, 10.91 inches, Tampa, 9.21; and Fort Myers, 9.68.

TEMPERATURE: Temperatures for the month were well above normal over the western half of the Nation and cooler than normal to the east.

The first week of June found temperatures in the Desert Southwest and Deep South, and over the Great Lakes and New England area above normal while the intervening corridor was much cooler than usual.

The remainder of the month a distinct north-south line moved across the Plains with much above normal temperatures west of the line, and cooler than normal east of the line. During the week ending the 16th, temperatures averaged as much 14° above normal in Boise, Idaho, 15° at Lewiston, Mont., and 12° at Salt Lake City, Utah. To the east, temperatures dropped into the 40's and 50's over much of the upper Plains, Mississippi River Valley and Great Lakes.

The extremely warm temperatures continued over the northern Rockies during the remainder of the month. During the closing week of June, record highs occurred in the West and record lows in the East. Early morning lows were records at 28 locations on the morning of the 25th in an area extending from Lower Michigan to southern Texas.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

JUNE 1974

STATE	Temperature						Precipitation				
	Monthly extremes						Monthly extremes				
	Station	Highest °F	Date	Station	Lowest °F	Date	Station	Greatest In	Station	Least In	
Alabama	Brewton 3 SSE	98	22	Caesars Head	43	26	Thomasville	10.74	Bessemer 3 SSW	.94	
Alaska	2 Stations	88	26	Barter Island	14	5	Juneau 9 NW	11.82	Glennallen KCAM	.00	
Arizona	Willow Beach	122	16	2 Stations	21	9	Patagonia	.97	146 Stations	.00	
Arkansas	Blytheville	99	24	Huntsville	40	25	Morobay Lock No. 8	16.37	Gilbert	2.75	
California	2 Stations	126	29	Redio	13	8	Korbel	1.62	244 Stations	.00	
Colorado	2 Stations	108	30	Red Feather Lakes 2 SE	13	8	Flagler 2 NW	4.47	6 Stations	.00	
Connecticut	Hartford WSO AP	97	10	Norwalk Gas Plant	34	9	Whigville Reservoir	4.97	Hartford-Brainard Field	1.83	
Delaware	4 Stations	94	10	Georgetown 3 SW	15	4	Dover	6.53	Georgetown 5 SW	2.91	
Florida	2 Stations	98	21	Fountain 3 SSE	53	29	Punta Gorda 1 ENE	23.99	Caryville	1.62	
Georgia	4 Stations	97	29	Blairsville Exp. Sta.	11	18	Savannah	11.13	Taylorsville	1.00	
Hawaii	Waikiki 717.2, Oahu	96	19	Mauna Loa Slope Obs., Ha	31	29	Lanikai 68.2, Hawaii	14.29	5 Stations	.00	
Idaho	Glenns Ferry	109	14	Hill City	29	8	Elk City	3.26	4 Stations	.00	
Illinois	Cairo WSO CI	97	21	2 Stations	12	23	Monticello No. 2	11.82	Waterloo 1 WSW	1.59	
Indiana	2 Stations	94	24	2 Stations	10	17	Greenfield	7.88	Seymour 2 N	1.53	
Iowa	2 Stations	103	24	Elkader 5 SSW	38	12	Hampton 3 NE	9.64	Harlan	1.06	
Kansas	Beal	112	29	3 Stations	41	9	McDonald	7.98	Johnson 11 ESE	.69	
Kentucky	Mayfield Radio WNGO	96	21	2 Stations	10	18	Leitchman	10.60	London FAA AP	1.83	
Louisiana	2 Stations	97	23	Longport 1 ENE	17	27	Kinder 3 W	13.10	Alexandria WSO AP	.57	
Maine	2 Stations	94	10	Bridgewater	28	7	Bangor Wiscasset Dam	5.56	Middle Dam	1.71	
Maryland	2 Stations	95	11	Oakland 1 SE	38	13	Rockville 3 NE	8.42	Crisfield Somers Cove	2.11	
Massachusetts	Chester 2	102	16	2 Stations	54	13	Becket	4.97	Birch Hill Dam	1.92	
Michigan	West Branch 2 N	94	26	Herman	28	24	Hart	8.07	Mount Clemens AF Base	.93	
Minnesota	2 Stations	107	21	Tower 3 S	27	13	Elgin	10.15	Elbow Lake	.68	
Mississippi	Forest 3 S	98	29	2 Stations	18	26	Tunica 2	12.86	Bay Saint Louis	1.32	
Missouri	St. Joseph 1 NW	101	20	2 Stations	39	25	Cassville Ranger Station	9.63	Richwoods 2 NE	.97	
Montana	2 Stations	102	25	Lakeview	19	1	Mystic Lake	3.62	Pony	.1	
Nebraska	2 Stations	107	20	Agate 3 E	29	7	Norfolk WSO AP	7.09	David City	.61	
Nevada	Sunrise Manor, Las Vegas	116	28	2 Stations	18	8	Contact	7.38	67 Stations	.00	
New Brunswick	4 Stations	97	11	Mount Washington	28	13	Mount Washington	7.00	2 Stations	1.27	
New Jersey	2 Stations	98	11	4 Stations	42	13	West Wharton	6.60	2 Stations	2.01	
New Mexico	2 Stations	108	23	2 Stations	22	9	Des Moines	3.41	26 Stations	.00	
New York	New York Laurel Hill	99	16	Old Forge	29	13	Slide Mountain	7.41	Watertown FAA AP	.62	
North Carolina	Whiteville	101	24	3 Stations	36	18	Hatteras	12.58	Hamlet	1.37	
North Dakota	Pretty Rock	103	27	Breien	30	16	New England	2.69	Fort Yates	.08	
Ohio	5 Stations	92	25	Mansfield 6 W	37	13	Wilmington	9.99	Upper Sandusky	1.34	
Oklahoma	2 Stations	108	29	Marathon 6 NW	12	25	Heavener 1 SE	10.95	Cloud Chief 2 SE	.51	
Oregon	2 Stations	106	19	2 Stations	21	8	Nehalem 9 NE	4.71	4 Stations	.00	
Pennsylvania	Lebanon 2 S	98	11	Clermont 4 NW	30	13	Mercersburg 1 E	8.70	Graterford 1 E	1.54	
Puerto Rico & VI	Manati 2 E, P. R.	98	25	Advantes Substation, P. R.	55	13	Isabela Substation, P. R.	12.01	2 Stations	.00	
Rhode Island	Providence WSO AP	94	10	Kingston	41	4	Kingston	3.61	Newport	1.97	
South Carolina	Florence FAA AP	102	22	Caesars Head 1 NE	12	19	Beaufort 7 SW	9.30	Bishopville 3 W	.41	
South Dakota	2 Stations	111	20	Pactola Dam	37	7	Mitchell 2 SW	4.98	Columbia 8 N	.17	
Tennessee	Savannah Wildlife Refuge	96	22	Mountain City No. 2	36	18	Bolton	13.86	Comasuga 1 NNW	.94	
Texas	2 Stations	110	19	2 Stations	15	9	Naples 1 SW	11.85	9 Stations	.00	
Utah	Saint George	109	30	Scofield	20	9	Alta	1.29	58 Stations	.00	
Vermont	Cavendish	98	10	Dorset 1 S	35	13	Mount Mansfield	5.81	Canaan	1.78	
Virginia	Chase City	98	10	Monterey	35	18	Pennington Gap	8.84	Parramore Beach L B S	.84	
Washington	Little Goose Dam	103	15	Satus Pass 2 SSW	25	7	Cedar Lake	6.70	Nespelem 2 S	.00	
West Virginia	2 Stations	99	16	Canaan Valley	30	13	Parsons 1 SE	10.81	Mataoka	2.49	
Wisconsin	2 Stations	92	26	Breed	31	24	Platteville	8.91	Eau Pleine Reservoir	2.22	
Wyoming	Sheridan 1 NE	100	26	Lake Yellowstone	18	1	Hecla	3.11	4 Stations	.00	

CLIMATOLOGICAL DATA

METRIC UNITS

JUNE 1974

State and Station	Elevation (ground)	Pressure		Temperature						Precipitation						Wind				No of days (sunrise to sunset)		Possible sunshine													
		Station	Sea level	Average minimum	Average maximum	Departure from normal	Highest	Date	Lowest	Date	Max 32° or above	Min 0° or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	25 mm or more	No of days				With thunderstorms	Maximum depth	Ice pellets	Snow	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy 8-10	Sky cover (tenths (sunrise to sunset)
ALABAMA																																			
BIRMINGHAM	180	992.5	1015.0	28.9	16.3	22.6	33.9	21	9.4	25	5	0	17.4	76	36	-66	17	10	9	0	0	0	0	0	0.4	25	13.4	5	1	18	14	2	9	19	7.8
HUNTSVILLE	190	992.5	1015.0	28.9	15.4	21.4	33.9	21	10.6	26	3	0	17.4	79	76	-25	39	10	9	0	0	0	0	0	0.4	23	17.0	35	23	12	6	12	6	6.3	
MOBILE	64	1006.8	1014.5	30.1	20.4	25.4	32.2	22	16.1	27	4	0	18.4	67	88	-66	22	11	11	0	0	0	0	0	0.4	19	9.4	2	4	12	10	5	7	24	
MONTEGUE	56	1007.8	1015.0	30.1	18.4	24.4	33.9	21	15.0	27	4	0	17.4	72	40	-62	14	8	10	0	0	0	0	0	0.4	32	17.9	NW	12	1	12	12	6	6.3	
ALASKA																																			
ANCHORAGE	35	1005.4	1010.3	17.6	8.4	13.1	25.0	30	5.6	27	6	0	6.7	66	18	-10	10	6	0	0	0	0	0	0	2.1	18	10.3	16	14	2	9	19	7.8		
ANCHORAGE	34	1011.5	1015.4	13.5	3.1	10.3	20.6	14	2.3	3	0	0	6.1	79	132	-4	25	27	0	0	0	0	0	0	2.3	16	10.3	18	22	1	5	24	8.8		
BARROW	12	1011.5	1015.4	9.8	2.1	-1	11.1	26	-10.4	3	0	0	-2.7	92	13	4	4	10	0	0	0	0	0	0	1.2	10	14.3	24	6	2	7	21	8.1		
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
BELLEVILLE	38	1011.2	1015.4	10.4	5.0	10.6	18.1	29	-10.4	4	0	0	-1.7	67	21	-25	4	4	2	0	0	0	0	0	2.2	30	15.6	28	6	2	1	1	1	1	
B																																			

CLIMATOLOGICAL DATA

METRIC UNITS

JUNE 1974

State and Station	Elevation (ground)	Pressure		Temperature						Precipitation						Wind				No. of days (sunrise to sunset)		Sky cover, tenths (sunrise to sunset)	Possible sunshine																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
		Station	Sea level	Average maximum		Average minimum		Average	Departure from normal	Highest	Date	Lowest	Date	No. of days		Average relative humidity	Precipitation							Wind																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
				mm	mb	C	F							C	F		mm	in	mm	in	mm			in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm

CLIMATOLOGICAL DATA

[illegible]

CLIMATOLOGICAL DATA

METRIC UNITS

[illegible]

JUNE 1974

[illegible]

CLIMATOLOGICAL DATA

METRIC UNITS

JUNE 1974

State and Station	Elevation (ground)	Pressure		Temperature						Precipitation				Wind			No. of days (sunrise to sunset)		Possible sunshine (sunrise to sunset)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
		Station Q	Sea level	Average maximum		Average minimum		Average		Departure from normal	Highest		Date		Lowest	Date	Max 32.2 °C or above	Min. 0 °C or lower		Average dew point	Average relative humidity	Total		With thunderstorms	No. of days	Snow, ice pellets	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Fastest mile (1.6 kilometers)	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
				C	F	C	F	C	F		C	F	C	F								mm	in															mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in

METRIC UNITS

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MONTHLY AND SEASONAL HEATING DEGREE DAYS

(Base 65°F)

1973-1974

State and Station	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total for Season	Normals July-June
ALABAMA														
BIRMINGHAM	0	0	3	73	285	615	374	491	161	147	9	0	2158	2844
HUNTSVILLE	0	0	6	67	294	664	486	565	232	179	31	2	2526	3302
MOBILE	0	0	0	18	91	377	108	288	106	49	0	0	1037	1684
MONTGOMERY	0	0	0	57	195	506	218	419	144	104	0	0	1643	2269
ALASKA														
ANCHORAGE	216	342	573	1012	1532	1440	1797	1416	1285	805	526	279	11223	10911
ANNETTE	314	289	359	646	1017	885	1138	824	867	654	554	424	7973	7053
BARROW	778		923	1407		2186	2352	2619	2645	2192	1449	1045	20265	20265
BARTER ISLAND	741	781	895	1517	1872	2209	2358	2648	2662	2186	1469	1018	20356	19994
BETHEL	355	425	581	1072	1329	1734	1824	2023	1549	1079	603	399	12973	13203
BETTLES	255	459	674	1448	2217	2023	2598	2006	1249		540	300	15925	15925
BIG DELTA	163	391	601	1280	2019	1880	2444	2232	1789	952	539	296	14586	13698
COLD BAY	537	459	549	815	817	1076	1089	1281	1113	977	725	569	10007	9865
FAIRBANKS	111	302	523	1231	1968	2124	2535	2322	1778	895	414	188	14391	14345
GULKANA	240					2180		1892	1692	973				
HOMER	385	416	568	894	1258	1247	1571	1269	1201	888	686	464	10807	10364
JUNEAU	343	404	505	732	1253	1143	1550	1006	1242	765	556	437	9936	9007
KING SALMON	284	318	529	953	1204	1452	1719	1812	1292	875	595	409	11442	11582
KODIAK	447	412	558	837	960	1009	1164	1117	1033	836	672	456	9501	8860
KOTzebue	483	500	663	1342	1779	1953	2129	2340	2025	1559	1074	756	16626	16039
MC GRATH	218	409	574	1244	2022	2214	2365	2174	1799	1062	537	313	14931	14487
NOME	598	604	679	1197	1417	1783	1857	2083	1685	1316	823	652	14694	14325
ST. PAUL ISLAND	634	586	625	848	827	1157	1188	1397	1204	1194	914	758	11332	11119
SUMMIT	419	571	772	1401	1852	1566	2155	1945	1709	1122	722	502	14925	14368
TALKEETNA	229	394	617	1176	1720	1566	1978	1493	1407	869	530	256	12235	11708
UNALAKLEET			588	1206	1573	1790		1682	696			549		14027
YAKUTAT	394	430	559	761	1190	1081	1490	1049	1196	840	652	483	10125	9533
ARIZONA														
FLAGSTAFF	39	45	212	458	829	987	1147	960	754	650	310	67	6458	7322
PHOENIX	0	0	0	2	156	291	333	229	77	8	0	0	1093	1552
TUCSON	0	0	0	23	216	390	451	362	161	49	5	0	1657	1752
WINSLOW	0	0	51	306	614	925	1009	849	505	423	77	9	4768	4733
YUMA	0	0	0	0	125	227	293	190	69	3	2	0	909	1005
ARKANSAS														
FORT SMITH	0	0	9	97	316	764	821	565	304	166	6	1	3049	3336
LITTLE ROCK	0	0	2	61	261	680	690	533	255	163	4	0	2649	3354
CALIFORNIA														
BAKERSFIELD	0	0	0	24	263	461	409	333	174	92	20	0	1776	2185
BISHOP	0	6	20	264	642	751	1088	642	488	364	87	0	4352	4313
BLUE CANYON	13	61	134	386	896	816	939	798	808	692	355	83	5981	5704
EUREKA U	287	308	230	393	399	419	559	523	455	454	423	321	4771	4679
FRESNO	0	0	0	94	360	544	522	438	260	160	33	0	2411	2650
LONG BEACH	0	0	1	9	207	292	354	257	234	96	37	0	1487	1606
LOS ANGELES	0	0	1	24	159	207	323	208	256	158	62	2	1400	1819
LOS ANGELES U	0	0	1	8	156	174	300	160	171	54	32	1	1057	1245
MT. SHASTA R	14	56	167	469	820	872	1009	811	761	618	323	73	5993	5890
OAKLAND	56	117	86	155	343	482	516	432	365	304	275	143	3274	2909
RED BLUFF	0	0	0	4	439	577	461	340	461	251	93	8	2743	2688
SACRAMENTO	0	0	0	77	384	553	571	456	332	227	52	5	2726	2843
SANDBERG R	4	33	64	223	616	681	856	641	632	534	270	39	4593	4427
SAN DIEGO	0	0	0	6	132	205	243	184	176	85	55	4	1090	1507
SAN FRANCISCO	100	129	76	128	327	495	501	424	354	298	270	145	3211	3042
SAN FRANCISCO U	199	239	137	134	285	396	423	353	354	284	309	202	3315	3080
SANTA MARIA	95	86	95	126	379	421	468	398	373	322	312	138	3213	3053
STOCKTON	0	0	0	90	345	533	541	454	309	194	47	0	2513	2806
COLORADO														
ALAMOSA	74	91	342	633	937	1366	1662	1394	839	778	359	173	8648	8609
COLORADO SPRINGS	32	1	194	378	754	1041	1172	866	700	566	176	88	5968	6473
DENVER	8	0	166	321	758	1029	1277	831	517	507	137	67	5772	6016
GRAND JUNCTION	0	0	72	266	708	1075	1487	1260	513	415	66	32	5894	5605
PUEBLO	2	0	84	268	682	1017	1192	782	552	409	59	36	5083	5394
CONNECTICUT														
BRIDGEPORT	0	0	35	171	501	838	984	988	765	380	219	21	4902	5461
HARTFORD	0	0	102	322	635	988	1134	1056	868	435	287	37	5864	6350
DELAWARE														
WILMINGTON	0	0	15	179	469	839	886	887	635	300	137	7	4354	4940
DIST. OF COLUMBIA														
WASHINGTON DULLES	0	0	24	257	564	917	837	905	631	329	168	21	4653	5010
WASHINGTON NATIONAL	0	0	4	103	399	708	677	716	490	228	85	4	3414	4211
FLORIDA														
APALACHICOLA U	0	0	0	15	72	331	40	243	61	27	0	0	789	1361
DAYTONA BEACH	0	0	0	10	15	239	0	197	30	24	0	0	515	897
FORT MYERS	0	0	0	0	12	147	0	73	1	1	0	0	234	457
JACKSONVILLE	0	0	0	26	82	357	31	287	82	68	0	0	933	1327
KEY WEST	0	0	0	0	0	24	0	17	0	0	0	0	41	64
LAKELAND U	0	0	0	4	21	198	0	144	6	8	0	0	381	678
MIAMI	0	0	0	0	1	93	0	37	0	0	0	0	131	206
ORLANDO	0	0	0	6	13	193	0	173	15	8	0	0	3538	733
PENSACOLA	0	0	0	17	79	360	68	277	64	32	0	0	897	1578
TALLAHASSEE	0	0	0	47	101	409	31	335	94	89	0	0	1106	1563
TAMPA	0	0	0	8	24	200	0	159	17	12	0	0	418	718
WEST PALM BEACH	0	0	0	0	2	104	0	65	1	2	0	0	174	299
GEORGIA														
ATHENS	0	0	0	94	295	634	377	515	249	159	19	0	2342	2975
ATLANTA	0	0	1	86	295	639	357	531	241	155	5	0	2310	3095
AUGUSTA	0	0	0	96	263	561	248	456	209	140	8	0	1981	2547
COLUMBUS	0	0	0	55	200	496	177	382	162	97	1	0	1570	2378
MACON	0	0	0	56	189	480	186	412	160	104	4	0	1591	2240
ROME	0	0	3	130	351	701	426	553	232	177				
SAVANNAH	0	0	0	47	148	435	107	340	124	73	1	0	1275	1952
IDAHO														
BOISE	4	13	103	382	692	817	1099	728	687	452	304	42	5323	5833
LEWISTON	1	4	80	415	749	787	1106	658	637	410	268	37	5154	5464
POCATELLO	12	18	237	500	843	1089	1313	979	815	580	359	78	6823	7063

MONTHLY AND SEASONAL HEATING DEGREE DAYS

(Base 65°F)

1971-1972

State and Station	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total for Season	Normals July-June
ILLINOIS														
CAIRO U	0	0	17	107	358	853	830	656	398	206	28	2	3455	3833
CHICAGO O HARE	0	0	72	244	687	1139	1240	1046	812	383	266	63	5952	6497
CHICAGO MIDWAY	0	1	70	232	685	1138	1230	1058	803	397	272	51	5957	6127
MOLINE	0	0	78	258	733	1276	1388	1061	812	360	235	32	6181	6395
PEORIA	0	0	54	253	671	1237	1292	991	736	348	214	42	5838	6098
ROCKFORD	0	1	99	281	744	1260	1354	1142	887	427	277	59	6533	6845
SPRINGFIELD	0	0	30	191	578	1140	1200	901	642	316	167	29	5194	5558
INDIANA														
EVANSVILLE	0	0	11	160	459	954	849	696	480	264	71	6	3950	4674
FORT WAYNE	0	7	62	266	635	1166	1206	1091	804	423	238	38	5936	6209
INDIANAPOLIS	0	0	20	211	552	1052	1028	905	617	314	158	18	4875	5577
SOUTH BEND	0	4	60	229	611	1102	1142	1028	780	403	250	51	5660	6462
IOWA														
BURLINGTON	0	0	57	225	680	1264	1298	995	749	349	203	39	5859	6149
DES MOINES	0	0	68	209	719	1325	1406	1033	775	363	189	20	6107	6710
DUBUQUE	0	2	132	302	805	1375	1460	1242	946	472	327	87	7150	7277
SIOUX CITY	0	0	98	259	799	1343	1491	973	783	374	126	25	6271	6943
WATERLOO	0	1	149	313	827	1380	1480	1218	985	469	296	52	7170	7415
KANSAS														
CONCORDIA	0	0	95	208	661	1176	1329	803	606	322	86	19	5305	5623
DODGE CITY	0	0	99	168	622	1018	1199	682	510	254	62	2	4616	5046
GOODLAND	4	0	188	365	780	1082	1281	825	715	454	148	51	5893	6119
TOPEKA	0	0	58	191	603	1082	1317	807	558	258	64	7	4945	5243
WICHITA	0	0	58	159	541	1021	1237	732	529	263	42	1	4583	4687
KENTUCKY														
COVINGTON	0	1	27	217	583	964	901	863	591	332	161	31	4671	5070
LEXINGTON	0	1	21	172	490	890	744	767	514	289	128	37	4043	4729
LOUISVILLE	0	0	13	144	450	860	772	714	487	257	99	19	3815	4640
LOUISIANA														
ALEXANDRIA	0	0	0	47	169	482	357	353	107	68	0	0	1583	2200
BATON ROUGE	0	0	0	18	86	384	179	285	70	28	0	0	1050	1670
LAKE CHARLES	0	0	0	11	78	385	245	272	81	32	0	0	1104	1498
NEW ORLEANS	0	0	0	18	80	355	117	274	71	16	0	0	931	1465
SHREVEPORT	0	0	0	40	164	557	533	386	152	78	2	0	1912	2167
MAINE														
CARIBOU	9	44	373	649	1117	1270	1810	1512	1359	887	609	81	9670	9632
PORTLAND	0	9	231	480	813	970	1290	1126	958	595	444	131	7047	7498
MARYLAND														
BALTIMORE	0	0	24	221	524	852	830	868	613	309	148	14	4403	4729
MASSACHUSETTS														
BLUE HILL OBS R	4	10	153	372	694	916	1123	1073	879	488	371	85	6168	6335
BOSTON	0	2	94	289	570	782	1023	1000	809	429	335	77	5410	5621
WORCESTER	6	8	202	420	750	1017	1191	1145	969	520	391	82	6701	6848
MICHIGAN														
ALPENA	42	35	304	406	866	1298	1364	1421	1146	697	517	151	8247	8518
DETROIT	0	13	114	274	685	1054	1102	1109	874	430	283	27	5945	6228
DETROIT METRO	0	10	98	276	702	1119	1189	1152	901	476	308	54	6285	6419
FLINT	8	18	153	300	733	1132	1246	1230	924	504	344	71	6657	7041
GRAND RAPIDS	1	7	136	314	748	1196	1212	1225	967	532	364	113	6815	6801
HOUGHTON LAKE	26	25	280	420	871	1298	1380	1411	1171	649	463	135	8129	8347
LANSING	11	5	179	339	745	1182	1233	1270	949	513	359	94	6879	6904
MARQUETTE U	59	37	244	360	889	1296	1482	1354	1180	747	535	192	8375	8351
MUSKEGON	3	8	195	328	743	1171	1229	1246	989	587	398	116	6973	6890
SAULT STE MARIE	92	22	376	473	949	1413	1566	1550	1330	805	558	164	9298	9193
MINNESOTA														
DULUTH	72	66	354	513	1106	1651	1843	1508	1373	806	565	206	10063	9754
INTERNATIONAL FALLS	26	20	364	530	1186	1751	2027	1641	1493	806	539	145	10547	10547
MINNEAPOLIS	1	3	185	350	915	1493	1642	1344	1092	535	338	72	7970	8159
ROCHESTER	3	15	197	349	903	1546	1611	1372	1098	547	350	78	8069	8227
ST CLOUD	14	11	255	419	988	1572	1779	1466	1235	623	419	97	8877	8868
MISSISSIPPI														
JACKSON	0	0	0	61	173	486	327	419	165	115	1	0	1747	2300
MERIDIAN	0	0	0	49	174	464	259	390	125	76	0	0	1537	2388
MISSOURI														
COLUMBIA REGIONAL	0	0	42	191	559	1052	1187	825	566	290	129	20	4861	5078
KANSAS CITY	0	0	53	173	578	1077	1272	823	559	270	84	6	4895	5161
ST JOSEPH	0	0	57	186	626	1087	1281	836	568	273	84	8	5006	5440
ST LOUIS	0	0	31	182	538	1077	1083	804	539	253	101	21	4629	4750
SPRINGFIELD	0	0	31	147	454	933	987	708	454	268	64	18	4064	4570
MONTANA														
BILLINGS	4	3	226	446	1058	1035	1313	811	896	511	443	94	6840	7265
GLASGOW	8	7	255	480	1306	1522	1692	1103	1089	526	436	70	8494	8969
GREAT FALLS	6	27	226	483	1191	1111	1397	865	974	530	477	85	7372	7652
HAVRE	8	22	235	505	1344	1359	1585	979	1037	497	436	60	8067	8687
HELENA	23	47	317	588	1208	1136	1452	897	956	564	500	99	7787	8190
KALISPELL	47	72	314	649	1076	1107	1385	926	965	508	510	125	7774	8544
MILES CITY	3	0	209	446	1056	1301	1431	941	951	507	389	56	7290	7889
MISSOULA	18	47	262	606	1036	1070	1357	919	910	569	505	103	7402	7931
NEBRASKA														
GRAND ISLAND	2	0	123	306	847	1304	1479	904	691	369	91	40	6156	6420
LINCOLN	1	0	99	281	772	1333	1533	941	704	403	139	32	6238	6218
NORFOLK	4	0	141	314	858	1324	1493	887	783	414	147	45	6510	6981
NORTH PLATTE	10	0	219	407	892	1290	1518	889	765	445	190	62	6687	6743
OMAHA	0	0	90	254	750	1302	1427	955	702	379	140	31	6030	6049
SCOTTSBLUFF	18	0	249	438	883	1216	1407	863	801	523	230	53	6641	6774
VALENTINE	7	0	236	376	897	1270	1413	970	855	510	243	65	6844	7300

MONTHLY AND SEASONAL HEATING DEGREE DAYS

(Base 65°F)

1972-1974

State and Station	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total for Season	Normals July-June
NEVADA														
ELKO	5	19	236	522	844	1064	1145	910	734	637	382	87	6585	7483
FLY	18	42	326	591	895	1170	1285	1021	809	717	373	93	7440	7814
LAS VEGAS	7	0	42	42	369	574	738	643	188	82	13	0	2431	2601
RENO	7	36	193	481	659	819	1027	800	680	545	310	73	5632	6022
WINNEMUCA	1	26	200	531	719	881	1070	807	646	581	263	52	5777	6629
NEW HAMPSHIRE														
CONCORD	15	9	244	518	860	1112	1345	1223	1025	573	432	99	7455	7360
MT WASHINGTON OBS	445	422	793	997	1409	1495	1809	1738	1747	1225	1096	591	13767	13878
NEW JERSEY														
ATLANTIC CITY	0	0	64	245	510	773	788	885	632	329	184	27	4446	4946
ATLANTIC CITY U	0	0	16	163	476	742	798	860	655	379	173	24	4286	4693
NEWARK	0	0	18	166	479	787	909	921	661	273	127	12	4353	5034
TRENTON U	0	0	32	203	515	803	906	915	692	307	164	22	4559	4947
NEW MEXICO														
ALBUQUERQUE	0	0	43	257	606	955	963	754	373	255	29	4	4239	4292
CLAYTON	4	0	119	263	561	928	1025	528	377	70	31		5207	
ROSWELL	0	0	27	130	410	710	755	599	233	151	11			
NEW YORK														
ALBANY	2	3	200	431	750	1136	1285	1216	1005	511	343	54	6936	6888
BINGHAMTON	5	27	200	374	749	1109	1160	1192	1016	495	384	90	6801	7285
BUFFALO	2	14	171	326	720	1107	1167	1187	989	553	365	51	6652	6927
NEW YORK U	0	0	29	162	493	800	913	925	704	309	165	27	4527	4888
NEW YORK KENNEDY	0	0	44	234	568	856	920	929	686	373	183	26	4839	5184
NEW YORK LA GUARDIA	0	0	30	167	485	785	903	919	713	331	186	27	4546	4909
ROCHESTER	2	14	162	305	653	1040	1167	1187	983	475	352	59	6399	6719
SYRACUSE	2	12	164	344	723	1094	1200	1206	1004	493	339	52	6633	6678
NORTH CAROLINA														
ASHEVILLE	0	0	7	205	473	772	516	680	423	299	83	24	3482	4237
CAPE HATTERAS R	0	0	0	31	246	389	293	476	276	143	28	0	1882	2731
CHARLOTTE	0	0	2	124	361	715	463	583	320	182	36	0	2786	3218
GREENSBORO	0	0	4	179	453	823	586	664	403	232	59	0	3403	3825
RALEIGH	0	0	2	126	312	690	481	614	346	187	48	0	2806	3514
WILMINGTON	0	0	0	39	224	459	211	428	209	113	24	0	1707	2433
NORTH DAKOTA														
BISMARCK	12	4	314	557	1263	1709	1816	1369	1167	674	440	120	9447	9044
FARGO	32	3	309	451	1187	1698	1963	1550	1208	676	431	86	9684	9271
WILLISTON	14	1	291	546	1338	1608	1801	1258	1204	653	448	80	9242	9161
OHIO														
AKRON	2	12	78	240	587	988	1059	1059	790	402	241	45	5503	6224
CINCINNATI ABBE OB	0	0	17	151	500	935	868	847	588	283	136	27	4352	4844
CLEVELAND	3	9	73	234	605	946	1015	1035	777	419	280	49	5445	6154
COLUMBUS	0	3	35	219	589	963	977	940	628	332	178	31	4895	5702
DAYTON	0	2	31	227	593	1045	1004	986	691	379	198	42	5198	5641
MANCHESTER	1	8	51	223	548	995	1017	1022	847	402	234	56	5444	5818
TOLEDO	3	16	114	289	686	1157	1197	1166	885	483	295	71	6362	6381
YOUNGSTOWN	8	17	120	308	659	1037	1077	1103	878	465	288	60	6020	6426
OKLAHOMA														
OKLAHOMA CITY	0	0	37	99	362	787	922	573	390	168	8	0	3286	3695
TULSA	0	0	24	95	343	824	951	591	341	137	5	0	3311	3680
OREGON														
ASTORIA	164	225	213	421	614	611	803	639	623	503	445	257	5518	5295
BURNS U	19	62	229	570	904	1002	1184	895	866	662	453	84	6930	7212
EUGENE	29	77	90	374	614	666	790	604	472	364	270	84	4434	4739
MEADHAM	88	144	322	615	1014	1079	1284	943	979	784	662	205	8119	7863
MEDFORD	0	12	28	352	569	654	809	703	620	504	267	30	4548	4930
PENDLETON	1	16	97	372	666	721	1064	589	573	391	241	29	4760	5240
PORTLAND	4	47	59	324	618	624	832	610	545	403	282	72	4424	4792
SALEM	30	85	106	398	624	665	845	658	580	463	371	73	4948	4852
SEXTON SUMMIT R	107	151	244	553	931	913	1059	881	881	758	586	251	7315	6430
PENNSYLVANIA														
ALLENTOWN	0	2	72	290	593	922	1036	968	755	385	216	32	5271	5827
ERIE	9	18	141	309	658	1022	1077	1128	915	521	373	101	6272	6851
HARRISBURG	0	1	34	239	534	887	931	910	683	289	133	2	4642	5224
PHILADELPHIA	0	0	18	196	507	810	897	926	667	292	128	11	4452	4865
PITTSBURGH	2	8	55	274	621	978	957	978	729	403	223	54	5282	5930
SCRANTON	2	11	140	368	699	1036	1145	1135	934	480	291	65	6306	6277
WILLIAMSPORT	5	16	119	354	672	1027	1087	1047	828	427	258	36	5876	5981
RHODE ISLAND														
BLOCK ISLAND	0	2	07	272	577	782	943	961	816	532	377	86	5445	5771
PROVIDENCE	2	2	125	331	632	819	1028	1003	808	433	313	62	5559	5972
SOUTH CAROLINA														
CHARLESTON	0	0	0	34	158	428	131	378	150	114	2	0	1395	2146
CHARLESTON U	0	0	0	22	133	397	133	324	146	56	2	0	1213	1904
COLUMBIA	0	0	0	57	205	477	199	394	161	99	7	0	1599	2598
GRNVILLE SPRNBRG	0	0	1	132	387	712	419	584	290	205	54	0	2784	3163
SOUTH DAKOTA														
ABERDEEN	2	0	239	442	1132	1630	1819	1305	1058	563	350	73	8613	8617
MURON	5	0	227	380	995	1499	1607	1131	948	506	346	73	7717	8055
RAPID CITY	16	0	244	416	972	1223	1329	905	840	530	343	87	6907	7324
SIOUX FALLS	1	0	178	373	902	1481	1616	1133	939	477	303	85	7488	7838
TENNESSEE														
BRISTOL	0	0	12	169	483	792	552	700	424	257	86	14	3489	4306
CHATTANOOGA	0	0	3	143	374	722	480	604	322	242	65	16	2971	3505
KNOXVILLE	0	0	10	135	373	734	481	606	304	190	41	10	2884	3478
MEMPHIS	0	0	8	67	244	665	599	535	235	150	1	0	2504	3127
NASHVILLE	0	0	8	84	316	753	601	641	320	227	28	3	2981	3696
OAK RIDGE R	0	0	11	139	415	789	548	651	347	228	65	26	3219	3944

MONTHLY AND SEASONAL HEATING DEGREE DAYS

(Base 65°F)

State and Station	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total for Season	Normals July-June
TEXAS														
ABILENE	0	0	6	60	227	552	680	380	181	78	7	0	2185	2610
AMARILLO	0	0	56	154	420	813	922	631	368	100	17	0	3573	4183
AUSTIN	0	0	0	0	8	387	496	258	108	36	0	0	1376	1737
BROWNSVILLE	0	0	0	0	16	130	190	102	40	5	0	0	483	650
CORPUS CHRISTI	0	0	0	0	20	204	264	151	56	13	0	0	708	930
DALLAS	0	0	1	26	143	480								
DALLAS FT WORTH	0	0	1	36	182	509	656	352	173	70	1	0	1980	2382
DEL RIO	0	0	0	1	83	362	363	231	53	11	0	0	1104	1523
EL PASO	0	0	7	90	336	592	636	558	178	79	5	0	2481	2678
GALVESTON U	0	0	0	1	23	249	251	181	61	10	0	0	776	1224
HOUSTON INTERCON	0	0	0	8	74	364	330	273	95	60	0	0	1204	1434
LUBBOCK	0	0	31	99	340	703	726	536	223	127	11	0	2796	3545
MIDLAND	0	0	15	81	252	541	607	429	121	68	1	0	2135	2621
PORT ARTHUR	0	0	0	13	83	394	288	85	36	0	0	0	1177	1518
SAN ANGELO	0	0	1	33	170	476	554	352	115	33	1	0	1755	2240
SAN ANTONIO	0	0	0	4	85	391	437	257	74	39	0	0	1287	1530
VICTORIA	0	0	0	0	26	254	310	183	70	17	0	0	860	1227
WACO	0	0	0	22	118	460	605	322	145	52	0	0	1724	2058
WICHITA FALLS	0	0	10	42	248	621	752	418	212	88	1	0	2392	2904
UTAH														
MILFORD	0	8	194	486	815	1063	1362	1062	667	614	188	41	6500	6412
SALT LAKE CITY	1	0	140	333	732	975	1181	935	603	502	214	41	5657	5983
WENDOVER	2	0	104	391	809	997	1149	887	580	358	137	20	5434	5760
VERMONT														
BURLINGTON	10	17	256	480	825	1160	1431	1378	1101	618	430	37	7743	7876
VIRGINIA														
LYNCHBURG	0	0	9	192	448	851	641	736	495	265	105	16	3758	4233
NORFOLK	0	0	0	83	353	575	504	599	377	183	63	0	2737	3488
RICHMOND	0	0	5	163	414	764	589	491	455	204	75	5	3345	3939
ROANOKE	0	0	12	196	461	826	607	722	440	255	96	14	3629	4307
WALLOPS ISLAND	0	0	2		450		676	752	560	324	115	12		4240
WASHINGTON														
OLYMPIA	97	170	184	465	748	749	852	644	625	544	403	161	5642	5530
QUILLAYUTE	217	291	250	499	728	701	828	681	705	548	513	295	6256	5951
SEATTLE		100	116	371	642	637	796	595	600	448	338	124	4803	4727
SEATTLE TACOMA	70	114	111	388	633	632	809	606	573	433	306	99	4774	5185
SPOKANE	17	47	193	546	933	978	1265	824	814	554	455	97	6723	6835
STAMPEDE PASS R	265	390	426	777	1142	1124	1363	1021	1075	904	840	441	9768	9400
WALLA WALLA U	0	9	80	321	676	714	1016	577	547	375	227	30	4572	4835
YAKIMA	13	42	128	485	816	895	1157	692	652	433	329	72	5714	6009
WEST VIRGINIA														
BCKLEY	5	13	55	295	613	951	724	859	594	362	198	113	4782	5615
CHARLESTON	0	1	19	202	541	833	659	775	500	277	115	25	3947	4590
ELKINS	12	12	110	373	698	996	799	959	692	472	255	119	5497	5975
HUNTINGTON	0	0	18	159	503	845	710	754	501	248	109	23	3870	4624
PARKERSBURG U	0	0	34	193	553	869	788	824	551	277	143	26	4258	4817
WISCONSIN														
GREEN BAY	4	11	221	330	897	1363	1487	1334	1087	590	413	132	7869	8098
LA CROSSE	1	7	123	267	844	1424	1453	1279	1011	490	316	69	7284	7417
MADISON	4	25	180	349	847	1342	1416	1298	979	494	347	90	7371	7730
MILWAUKEE	10	5	111	324	788	1218	1340	1173	959	560	448	106	7042	7444
WYOMING														
CASPER	36	0	296	495	951	1181	1432	1044	885	650	416	105	7491	7555
CHEYENNE	80	4	323	482	883	1098	1264	922	862	643	304	110	6975	7255
LANDER	35	3	332	521	988	1211	1451	1055	893	633	415	91	7628	7869
SHERIDAN	23	4	299	523	1070	1169		887	902	572	462	95		7708

COOLING DEGREE DAYS

(Base 65°F.)

JULY 1974

State and station	Current season		Normals January through this month	State and station	Current season		Normals January through this month	State and station	Current season		Normals January through this month	State and station	Current season		Normals January through this month	
	This month	Period January through this month			This month	Period January through this month			This month	Period January through this month			This month	Period January through this month		
ALABAMA				HAWAII				NEBRASKA				SOUTH CAROLINA				
BIRMINGHAM	238	549		HILO	315	1633		GRAND ISLAND	189	272		CHARLESTON	319	798		
HUNTSVILLE	172	383		HONOLULU	434	2082		LINCOLN	215	286		CHARLESTON U	380	900		
MOBILE	392	1007		KAHULUI	359	1796		NORFOLK	164	202		COLUMBIA	388	922		
MONTGOMERY	325	742		LAHUE	418	1975		NORTH PLATTE	117	146		GRNVLE-SPRTNBRG	222	419		
ALASKA				IDAHO				OMAHA	182	245						
ANCHORAGE	0	0		BOISE	252	265		SCOTTSBLUFF	192	216		SOUTH DAKOTA				
ANNETTE	0	0		LEWISTON	228	235		VALENTINE	144	161		ABERDEEN	99	112		
BARROW	0	0		POCATELLO	130	131		NEVADA				HURON	109	127		
BARTER ISLAND	0	0										RAPID CITY	143	147		
BETHEL	0	0		ILLINOIS				ELKO	97	101		SIOUX FALLS	118	143		
BETTES	20	20		CAIRO U	244	466		ELY	63	63						
BIG DELTA	1	1		CHICAGO O HARE	83	114		LAS VEGAS	731	1192		TENNESSEE				
COLD BAY	0	0		CHICAGO MIDWAY	105	149		RENO	47	49		BRISTOL	102	184		
FAIRBANKS	9	10		MOLINE	113	180		WINNEMUCCA	184	203		CHATTANOOGA	124	235		
GULKANA	0	0		PFORIA	99	154						KNOXVILLE	179	349		
HOMER	0	0		ROCKFORD	98	132		NEW HAMPSHIRE				MEMPHIS	299	638		
JUNEAU	0	0		SPRINGFIELD	136	227		CONCORD	40	52		NASHVILLE	203	449		
KING SALMON	0	0					MT WASHINGTON OBS	0	0		OAK RIDGE R	116	240			
KODIAK	3	3		INDIANA								TEXAS				
KOTZEBUE	0	0		EVANSVILLE	188	383		NEW JERSEY				ABILENE	480	1056		
MC GRATH	3	3		FORT WAYNE	106	139		ATLANTIC CITY	121	184		AMARILLO	306	592		
NOME	1	1		INDIANAPOLIS	131	234		ATLANTIC CITY U	104	132		AUSTIN	463	1206		
ST. PAUL ISLAND	0	0		SOUTH BEND	114	141		NEWARK	172	264		BROWNSVILLE	485	1791		
SUMMIT	0	0					TRENTON U	141	210		CORPUS CHRISTI	486	1615			
TALKEETNA	0	0		IOWA							DALLAS-Ft WORTH	419	978			
UNALAKLEET	0	0		BURLINGTON	102	164		NEW MEXICO				DEL RIO	565	1481		
YAKUTAT	0	0		DES MOINES	149	210		ALBUQUERQUE	464	613		FL PASO	540	981		
				DUBUQUE	59	81		CLAYTON	205	301		GALVESTON U	481	1162		
ARIZONA				SIOUX CITY	173	229						HOUSTON INTERCON	454	1175		
FLAGSTAFF	120	120		WATERLOO	105	137		NEW YORK				LUBBOCK	413	851		
PHOENIX	825	1555		KANSAS			ALBANY	59	82		MIDLAND	488	1049			
TUCSON	664	1070		CONCORDIA	207	319		BINGHAMTON	42	59		PORT ARTHUR	423	1110		
WINSLOW	360	431		DODGE CITY	287	473		BUFFALO	71	78		SAN ANGELO	481	1104		
YUMA	790	1512		GOODLAND	173	215		NEW YORK U	155	221		SAN ANTONIO	439	1218		
ARKANSAS				TOPEKA	165	332		NEW YORK LA GUARDIA	149	200		VICTORIA	494	1442		
FORT SMITH	231	538		WICHITA	233	398		ROCHESTER	88	115		WACO	461	1114		
LITTLE ROCK	288	576					SYRACUSE	77	97		WICHITA FALLS	454	975			
CALIFORNIA				KENTUCKY								UTAH				
BAKERSFIELD	505	861		COVINGTON	121	216		NORTH CAROLINA				MILFORD	172	192		
BISHOP	275	358		LEXINGTON	108	233		ASHEVILLE	82	150		SALT LAKE CITY	303	336		
BLUE CANYON	56	66		LOUISVILLE	136	298		CAPE HATTERAS R	283	503		WENDOVER	352	448		
EUREKA U	0	0					CHARLOTTE	223	433							
FRESNO	384	583		LOUISIANA			GREENSBORO	176	313		VERMONT					
LONG BEACH	167	213		ALEXANDRIA	372	962		RALEIGH	210	416		BURLINGTON	89	103		
LOS ANGELES	58	68		BATON ROUGE	390	1131		WILMINGTON	321	707						
LOS ANGELES U	223	348		LAKE CHARLES	418	1077						VIRGINIA				
MT SHASTA R	48	52		NEW ORLEANS	402	1136		NORTH DAKOTA				LYNCHBURG	113	221		
OAKLAND	5	11		SHREVEPORT	355	834		BISMARCK	61	61		NORFOLK	244	451		
RED BLUFF	346	490		MAINE			FARGO	75	84		RICHMOND	180	354			
SACRAMENTO	180	246		CARIBOU	21	23		WILLISTON	92	94		ROANOKE	117	233		
SANDREB R	170	201		PORTLAND	26	32						WALLOPS ISLAND	147	209		
SAN DIEGO	69	80					OHIO									
SAN FRANCISCO	11	17		MARYLAND			CINCINNATI ABBE OB.	90	136		WASHINGTON					
SAN FRANCISCO U	3	10		BALTIMORE	126	211		CLEVELAND	140	274		OLYMPIA	6	6		
SANTA MARIA	0	0					COLUMBUS	91	123		QUILLAYUTE	0	0			
STOCKTON	304	413		MASSACHUSETTS			DAYTON	117	199		SEATTLE	12	12			
COLORADO				BLUE HILL OBS R	66	91		MANSFIELD	118	185		SEATTLE-TACOMA	36	36		
ALAMOSA	31	31		BOSTON	81	113		TOLDO	101	149		SPOKANE	137	137		
COLORADO SPRINGS	130	148		WORCESTER	59	71		YOUNGSTOWN	74	110		STAMPEDE PASS R	0	0		
DENVER	176	212		MICHIGAN			OKLAHOMA					WALLA WALLA U	230	243		
GRAND JUNCTION	335	409		ALPENA	24	31	OKLAHOMA CITY	280	545		YAKIMA	174	177			
PUEBLO	264	353		DETROIT	150	182	TULSA	270	597							
CONNECTICUT				DETROIT METRO.	91	109		OREGON				WEST INDIES				
BRIDGEPORT	135	161		FLINT	77	87		ASTORIA	0	0		SAN JUAN P.R.	558	2693		
HARTFORD	110	145		GRAND RAPIDS	60	70		BURNS U	114	116		WEST VIRGINIA				
				HOUGHTON LAKE	41	48		EUGENE	57	60		BECKLEY	51	99		
DELAWARE				LANSING	80	99		MEACHAM	40	40		CHARLESTON	118	274		
WILMINGTON	175	263		MARQUETTE U	40	45		MEDFORD	120	127		FLKINS	75	51		
				MUSKEGON	38	41		PENDLETON	219	228		HUNTINGTON	130	296		
DIST. OF COLUMBIA				SAULT STE MARIE	14	14		PORTLAND	40	61		PARKERSBURG U	115	243		
WASHINGTON DULLES	90	162		MINNESOTA			SALEM	34	34							
WASHINGTON NATIONAL	205	338		DULUTH	19	19		SEXTON SUMMIT R	32	32		WISCONSIN				
FLORIDA				INTERNATIONAL FALLS	43	46						GREEN BAY	35	48		
APALACHICOLA U	444	1096		MINNEAPOLIS	93	116		PACIFIC AREA				LA CROSSE	74	99		
DAYTONA BEACH	414	1264		ROCHESTER	65	81		GUAM TAGUAC R	427	2496		MADISON	68	94		
FORT MYERS	460	1768		ST CLOUD	54	62		JOHNSTON	478	2448		MILWAUKEE	36	45		
JACKSONVILLE	383	1004		MISSISSIPPI			KROER R	513	3057							
KEY WEST	544	2323		JACKSON	298	745		KWAJALEIN	503	3044		WYOMING				
LAKELAND U	433	1497		MERIDIAN	329	848		MAJUORO	475	2856		CASPER	109	109		
MIAMI	518	2110					PAGO PAGO	435	2656		CHEYENNE	88	92			
ORLANDO	463	1263		MISSOURI			PONAPE R	446	2864		LANDER	138	139			
PENSACOLA	440	1187		COLUMBIA REGIONAL	124	229		TRUK MOEN ISLAND	499	1038		SHERIDAN	119	119		
TALLAHASSEE	396	979		KANSAS CITY	176	302		WAKE	444	2305						
TAMPA	460	1525		ST JOSEPH	194	325		YAP R	466	2864						
WEST PALM BEACH	457	1827		ST LOUIS	164	333										
				SPRINGFIELD	124	275		PENNSYLVANIA								
GEORGIA								ALLENTOWN	86	142						
ATHENS	231	481		MONTANA				ERIE	55	69						
ATLANTA	229	494		BILLINGS	158	161		HARRISBURG	176	289						
AUGUSTA	284	579		GLASGOW	113	118		PHILADELPHIA	179	258						
COLUMBUS	322	734		GREAT FALLS	148	148		PITTSBURGH	66	98						
MACON	344	801		HAYES	138	142		SCRANTON	52	90						
ROME				HELENA	102	102		WILLIAMSPORT	83	100						
SAVANNAH	360	918		KALISPELL	83	83						RHODE ISLAND				
				MILES CITY	182	189		BLOCK ISLAND	32	32						
				MISSOULA	106	106		PROVIDENCE	79	113						

STORM SUMMARY

JUNE 1974

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	DAMAGE	DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE	
								PROP. ERTY	CROPS			PROP. ERTY	CROPS			PROP. ERTY	CROPS			PROP. ERTY	CROPS			PROP. ERTY	CROPS			PROP. ERTY	CROPS
Alabama									5			5		1	1														
Alaska												4																	
Arizona	4	3	1	40	5							5																	
Arkansas	3	1	4	112	7			3	C		8	5		3	1	4	C									2	1	7	C
California	*																												
Colorado								3	5		3	4	4		3					4								3	
Connecticut	1	1			3																								
Delaware	*																												
Florida	4	4			5				3		5	4	8	6	4	4										3		7	4
Georgia	3	2			4			4	6		2	5	5			5	4											4	4
Hawaii																													
Idaho				2	7			6	6	1	36	7	7	1	2	2										1	1	2	2
Illinois	41	8		5	5			3	3		2	5	6		2	5												6	5
Indiana	4	3		5	5			3	3			2	6			2	4	4										5	C
Iowa	10	5	3	71	7			6	6	2		6	6		2	4										1	1	7	7
Kansas	9	5	6	202	7			6	6		3	6	5															5	5
Kentucky	1	1			4				4		1	6	5			4												5	6
Louisiana	11	6			5							4			2	5													
Maine	1	1		1	4																								
Maryland & DC																													
Massachusetts																													
Michigan	8	5		3	5			3	C			3			7	5													
Minnesota	5	5		6	5			7	7		1	5	5		2	7	4									1	8	5	5
Mississippi	7	6			4			1	1		3	5	1																
Missouri	3	1			4			2	4			9	7		2	4													
Montana								5	5																				
Nebraska	1	1			3			5	5				5		1	5	4									1		3	
Nevada	*																											4	2
New Hampshire	*																											3	
New Jersey																4													
New Mexico	1	1			4							5																	
New York	2	1		3	6						1	6			1														
North Carolina	3	1			6			4	6		11	5	5															4	3
North Dakota	4	2		6	5			4	5			5	4		1														
Ohio								4		1	12	6	C		3	4										2	6		5
Oklahoma	24	2	16	294	7			2	6	5		5	4			4										2		6	
Oregon																													
Pacific Area	*							2	2																			4	
Pennsylvania	1	1			3			1	3	5		4	5			4													
Puerto Rico																													
Rhode Island	*																												
South Carolina								4	6			4	3			4													
South Dakota	3	2						5	6		1	4	6																
Tennessee	1	1	1	1	4				4		6	4				4												4	
Texas	26	10		2	6			6	7				5			3													
Utah												4																	
Vermont												4																	
Virginia																												5	
Virgin Islands	*																												
Washington	*																												
West Virginia	*																												
Wisconsin	7	3			6			5	5			6																4	
Wyoming	3	2			4			4			2	5			1	2													

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

JUNE 1974

Herbert J. Thompson and Raymond J. Haley
Office of Hydrology

There was a recurrence of major flooding in the Upper Mississippi Basin in Iowa and Illinois with severe flooding in southeastern Minnesota as well. Record stages were reported on some smaller streams. Heavy snow-melt runoff occurred in the headwaters of the Missouri Basin and in portions of the Columbia Basin. Major storm and flood damage occurred along the Florida Gulf Coast. Flooding continued from May in the lower Souris Basin of North Dakota. Minor to moderate flooding occurred in the Kansas, lower Missouri, and portions of the Ohio Basin with serious

flooding along the Wabash and lower Ohio Rivers and in the Arkansas Basin. Minor river and flash flooding occurred in several sections of the country.

Serious drought conditions existed in Puerto Rico and the lower Colorado River Basin in Arizona.

Hydrologic events of unusual significance or involving loss of life or property damage are discussed in more detail below.

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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HUDSON BAY DRAINAGE

Red River of the North Basin	Flooding on the Souris River in North Dakota which began in April, continued until June 14 at Bantry and into July along the lower reach of the river. Flooding ended along the Pembina River on the 2d. Preliminary estimates of damage by the Corps of Engineers were \$3.3 million in North Dakota and \$1 million in Minnesota for the entire period of flooding. Most of this damage was agricultural.	0	4,300
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ATLANTIC SLOPE DRAINAGE

Santee River Basin	Monthly Rainfall totals ranged from 3 to 6.5 inches over the headwater areas. Most reservoirs came within one foot of filling. The Saluda River went over flood stage at Chappells, S. C., on the 20th primarily due to power plant regulation. No damage was reported.	0	25
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Flash flooding occurred on the 7th in the Bush River Road area of Columbia, S. C. There was an intense thunderstorm over the area but causative rainfall amounts were not recorded in nearby gages. Ten cars were damaged and seven homes were flooded in varying degrees. Damage amounted to \$20,000. On the 2d flash flooding occurred in Rock Hill, S. C. A rainfall amounts of 2.84 inches in 25 minutes was reported by the observer in the area.

Minor flooding of several stores in two shopping centers caused \$5,000 damage.

EAST GULF OF MEXICO DRAINAGE

Central Florida Coastal Streams	During the period of the 26th-28th a low pressure trough across central Florida with an embedded stationary front extending north-northeastward from the vicinity of Tampa caused torrential rainfall along the central Florida coast. Three-day storm totals were generally around 8 inches but were much heavier in the Tampa area where a maximum of 22.9 inches was reported at Dunedin Towers. Flooding and damage was heaviest along the coast with inland areas less seriously affected. However, the Alafia River crested nearly 2 feet over flood stage early in July at Lithia Springs. An esti-	0	23,050
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GENERAL SUMMARY OF NATIONAL FLOOD EVENTS-Continued

JUNE 1974

Basins
and
Streams

FLOOD EVENT

Lives
Lost

Preliminary Estimate
of Property Damage
(thousands of dollars)

EAST GULF OF MEXICO DRAINAGE-Cont'd

mated 3,000 persons were evacuated from flooded areas with 2,000 homes and businesses seriously damaged. Hardest hit was Pinellas County with more than \$18 million damage. More than \$4 million damage was reported in Lee County. An indeterminate amount of the reported loss was due to heavy rain rather than stream flooding, particularly in Pinellas County. Losses caused by abnormally high tides and wave action were relatively light, estimated at \$650,000 to sea walls and \$1 million from beach erosion, and are not included in the overall damage figures. Estimates of losses were made by the Corps of Engineers.

UPPER MISSISSIPPI BASIN

Whitewater, Root,
Zumbro, and
Upper Iowa Rivers

Unusually heavy rains which fell over southeastern Minnesota and northeastern Iowa on the 20th-21st caused severe flooding on these tributaries of the Mississippi River. Amounts for the storm ranged from 2 to 6 inches over the Whitewater and Zumbro Basins, 2 to 5 inches over the Root Basin, and 2 to 4 inches over the Upper Iowa Basin. Crest stages of up to 6.5 feet over flood stage were reported on these streams. Heavy damage occurred in the counties of Houston, Winona, Olmstead, Wabasha, and Fillmore in Minnesota, and lesser damage in Winneskieh and Ellamakee Counties in Iowa. Particularly hard hit was the community of Elba, Minn., on the Whitewater River, most of whose 158 residents were evacuated with 20 homes damaged. Flooding was agravated at Elba by a levee system designed to protect the town from the Whitewater River but which in this case served to impound heavy runoff from the North Fork Whitewater River within the levee system. The crest of 16.38 feet on the U. S. Geological Survey gage on the North Fork of the Whitewater near Elba was nearly 8 feet higher than the previous maximum crest in 11 years of record. On the South Fork of the Whitewater near Altura the crest of 10.61 feet equalled the maximum of record dating from 1939. Neither station is in the Weather Service reporting network.

0

8,380

In Rochester, Minn., 25 homes were damaged along Silver and Bear Creeks, tributaries to the Zumbro River. Considerable damage to roads and structures occurred in Whitewater State Park, estimated at \$75,000. Timely warnings prevented loss of life in the usually crowded park campgrounds. Residents along the Upper Whitewater River consider it the worst flood in at least 50 years.

Damage occurred to roads, bridges, crops, and residential and commercial property, and estimates of damage by basin are: Root River \$6,798,000; Whitewater River, \$440,000; Zumbro River \$950,000; and Upper Iowa River, \$192,000.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS-Continued

JUNE 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
	<u>UPPER MISSISSIPPI BASIN-Cont'd</u>		
Mississippi Tributaries in Northern Illinois	Streams in northern Illinois were generally high at the beginning of the month following the excessive rains and flooding of May. Rains of 1 to 2 inches on the 8th-9th maintained the high stream levels and caused minor to moderate flooding in the Rock River Basin with crests up to 2 feet over flood stage. Periodic light rainfall occurred until the 21st-22d when heavy rainfall of 2 to 3 inches and locally more than 4 inches was reported. Severe flooding resulted in the lower Rock Basin with crests more than 7 feet over flood stage along the Green River and nearly 4 feet over flood stage on the lower Rock. Severe flooding occurred on Pope Creek and the Edwards and Henderson Rivers - smaller streams draining directly into the Mississippi River. A record crest of 28.53 feet, 7 feet over flood stage, was reported at Oquawka on the Henderson River. The previous record crest of 28.2 feet occurred in April 1950. Older residents of Little York, also on the Henderson, report the worst flooding within memory, with 3 feet of water over a highway which had never been covered before. Principal damage was agricultural with the possibility that tens of thousands of acres of productive farm land may not produce a crop this year.	0	N.A.
Mississippi Tributaries in Iowa	Major flooding with record high crests on some streams occurred in eastern Iowa during June. Streams were generally high at the beginning of the month from excessive rainfall in May, and the lower Iowa and Skunk Rivers were above flood stage. During the night of the 8th rains of 2 to 5 inches fell over a large area extending from 50 miles southwest of Des Moines northeastward across the Des Moines and Iowa River Basins to the upper portion of the Cedar Basin. Two-inch rains fell over a small portion of the Upper South Skunk Basin on the 18th, and on the 21st 2 to 4-inch rains fell over the Iowa Basin above Marshalltown and 1 to 2-inch rains fell over the entire Skunk River Basin. Runoff from these rains was heavy due to the saturated soil conditions. A record crest of 19.38 feet, more than 6 feet over flood stage, occurred at Marshalltown on the Iowa River on the 23d. The Iowa River continued in flood all through June below Coralville Reservoir due to releases from the reservoir. The three periods of rainfall gave three distinct crests ranging from 1.5 to 3.3 feet over flood stage on the lower Iowa River. A record crest also occurred on the South Skunk River at Ames on the 9th. The crest stage of 13.33 feet was more than 3 feet over flood stage. Several distinct crests also occurred in the Skunk Basin ranging from 2.5 feet to 5 feet over flood stage. Crests 2 to 4 feet over flood stage were reported on various headwater tributaries of the Cedar River but only minor flooding occurred on the main stem of the Cedar River.	1	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS-Continued

JUNE 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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UPPER MISSISSIPPI BASIN-Cont'd

In the Des Moines River Basin crests of 4 to 5 feet over flood stage occurred on Cedar and Whitebreast Creeks and the North and Middle Rivers while the South River crested 9 feet over flood stage at Ackworth. In the Des Moines area widespread flooding occurred along Walnut and Four Mile Creeks on the 9th. Crests on the Raccoon and Des Moines Rivers at Des Moines were about 2 feet above flood stage. Property damage in the Des Moines area was extensive.

Considerable property damage occurred at Marshalltown on the Iowa River. Major agricultural damage occurred in Iowa with thousands of acres requiring replanting. One death was reported at Whitten when a flash flood struck a mobile home.

Illinois River Basin	Flooding continued from May on the main stem of the Illinois River at and below LaSalle, Ill. Periodic rainfall maintained high stream levels during the first 3 weeks of the month with minor flooding on the Fox, Vermillion, and Upper Illinois Rivers on the 7th-10th. Heavy rainfall on the 21st caused major flooding along the middle and lower Illinois River and several of its tributaries, including the Vermillion and Sangamon Rivers. The crest stage of 20.57 feet on the Vermillion River at Leonore was more than 10 feet over flood stage. Crests on the Illinois ranged from 5.2 feet over flood stage at La Salle to more than 12 feet over flood stage at Beardstown.	0	4,500
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At Peoria, Ill., on Kickapoo Creek 30 homes and 10 businesses were flooded with 100 people evacuated and damage estimated at \$2 million. At Lake Arlen 50 homes were flooded, 500 people were evacuated, and damage was estimated at \$500,000. Along the Illinois River 330 homes were flooded with \$660,000 damage. Along the Sangamon River 25 homes were flooded to the extent of \$50,000 damage. Agricultural damage amounted to \$650,000 with 25,000 acres inundated.

MISSOURI BASIN

Missouri River Headwater Streams	Rapid melting of a snowpack which, on May 1, averaged 25 percent greater than normal over the headwater area, resulted in minor flooding. Streams affected were the Big Hole, Jefferson, and Gallatin Rivers and the Missouri River from Three Forks to Canyon Ferry Dam in Montana. Crests were in the range of 1 to 2 feet over flood stage. Damage was light.	0	50
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Yellowstone River Basin	The greatest flood of record produced by snowmelt alone occurred along the Upper and middle Yellowstone River in June. Flooding also was reported on the Boulder, Stillwater, and Clarks Fork tributaries draining the Absarokee Range. Below normal temperatures during May and early June prevented an orderly melt and runoff of a snowpack that approached record proportions by June 1. Then, during the middle of June, five days of temperatures which	0	1,385
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GENERAL SUMMARY OF NATIONAL FLOOD EVENTS-Continued

JUNE 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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MISSOURI BASIN-Cont'd

averaged 15 to 25° above normal caused a rapid melt which resulted in the flooding.

At Livingston, Montana, the crest of 9.20 feet was the greatest since 1943 when the flood of record occurred. The crest stage in 1943 was 9.34 feet. At Billings, Montana, the greatest flood known occurred in 1918 with an estimated discharge of 80,000 c.f.s. According to the U. S. Geological Survey this year's flood had a peak discharge of 70,000 c.f.s., which is the greatest volume in 47 years of record although the crest stage in 1967 was slightly higher than that for this year's flood. The monthly mean flow for June at Billings was also the highest of any month of record.

Damage was primarily agricultural with 5,500 acres flooded. Some damage occurred to roads and bridges and to homes and recreational facilities along the river near Livingston. Timely and accurate forecasts enabled preventive measures to be taken which realized savings of more than \$600,000.

Floyd River	Heavy rainfall occurred during the night of the 21st-22d in northwestern Iowa with amounts of 3-5 inches common. Lowland flooding occurred on the Floyd River from Haspers to Alton with about 500 acres inundated. Crops suffered little damage as the river receded rapidly.	0	0
Kansas River Basin	On the 8th-9th rainfall of 3-5 inches occurred over the upper portions of the Republican, Solomon, Saline, Smoky Hill, and Big Blue Rivers, with 1 to 2 inch amounts elsewhere over the basin. Flooding was confined to smaller tributaries, including the Black Vermillion and Delaware Rivers and Mill and Stranger Creeks. Crest stages ranged up to 4 feet over flood stage but damage was light since flooding lasted less than one day.	0	N.A.
Lower Missouri Basin	Monthly rainfall totals ranged from 1.2 to 5.6 inches and averaged about 3.5 inches over the Missouri Basin below Nebraska City, Neb. Much of the heavier amounts fell on the 8th-9th with a number of streams in the area going over flood stage. Overflows of 3 to 6 feet were reported along the 102, Little Platte, Platte, Little Blue, Blue, Upper North Grand, and Chariton Rivers. Up to 8 feet of flooding occurred on the lower North Grand and the Marais des Cygne River at Reading 3 N, Kansas. Minor flooding occurred on the Tarkio, Blackwater, and lower Marais des Cygne Rivers and Pottawatomie Creek. Crests 1 to 2 feet over flood stage were reported along portions of the Lower Missouri main stem with nearly 5 feet of flooding at Lexington, Mo. Damage was generally light and limited to field crops.	0	N.A.

OHIO BASIN

Monongahela River Basin	Heavy rain during the period May 31-June 2 caused the West Fork and Tygart Valley Rivers, tributaries of the Monongahela, to go over flood stage. Over-	0	N.A.
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GENERAL SUMMARY OF NATIONAL FLOOD EVENTS-Continued

JUNE 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
OHIO BASIN-Cont'd			
	flows of up to 3 feet were reported with damage light. Minor flooding occurred at Charleroi and Braddock, Pa., on the Monongahela on the 23d-24th.		
Southern West Virginia-Northern Kentucky Tributaries	From May 30-June 2 heavy rain fell over the area with storm totals averaging 2.5 to 7 inches over the various basins. Extensive small stream flooding occurred in West Virginia, particularly in Jackson County. Some residents of Statts Mills and Kenna were forced to evacuate their homes. Several larger streams approached flood stage including the Greenbrier, Elk, Coal, and Guyandotte Rivers. From 4 to 6 feet of flooding occurred along the Little Kanawha River from above Glenville to the mouth. Damage was reported in Glenville with savings of a few thousand dollars due to flood forecasts.	0	N.A.
	On the 21st heavy thundershower activity along the Ohio River with amounts up to 4 inches caused small stream flooding in Tyler County. Several people were evacuated at Middlebourne along Middle Island Creek. On the 22d over 5 inches of rain fell in southeastern Kentucky with small stream flooding. On the 23d flooding was again reported along Middle Island Creek as a result of 2 to 4 inches of rain.		
Muskingum and Scioto Basins	Flash flooding occurred southeast of Zanesville, Ohio, on the 20th-21st with road damage. Rainfall was 3 to 5 inches in the area.	0	N.A.
	Precipitation over the Scioto Basin below Columbus averaged 5.8 inches for the month, or 150 percent of normal. Much of this rain fell on the 22d-23d with small stream flooding in the basin below Chillicothe. The Scioto crested 4 feet above flood stage on the 24th.		
Little Miami and Miami River Basins	Heavy rainfall with amounts ranging up to more than 7 inches occurred over these basins on the 22d. Most of this rain fell in a two-hour period from 7:30 to 9:30 p.m. Flash flooding along Clear Creek near Franklin, Ohio, caused very heavy damage. The Little Miami rose more than 18 feet at Kings Mills, Ohio, and more than 14 feet at Milford, Ohio, in about 16 hours to crest about 3 feet over flood stage at each point. The Miami River did not reach flood stage.	0	N.A.
Kentucky River Basin	More than 5 inches of rain fell over the headwaters of the North Fork Kentucky River early on the 22d. Severe flash flood damage occurred along Line Fork Creek at Whitesburg, Ky., estimated at \$250,000. At Hazard, Ky., the North Fork rose more than 22 feet overnight to crest 7 feet over flood stage.	U	N.A.
Wabash River Basin	Flooding continued from May along the middle and lower Wabash River and several tributaries including the Little Wabash, Embarrass, and portions of the White River. Flooding ended at all reporting points by the 9th. Heavy rain on the 22d of up to 3 inches brought the Wabash and most tributaries back over flood stage. Crest stages were generally lower than	0	13,533

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS-Continued

JUNE 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
OHIO BASIN-Cont'd			
	those of May, ranging from about 1 to 5 feet over flood stage on tributary streams and from less than 1 foot on the lower Wabash to 8.5 feet over flood stage at Montezuma, Ind., on the Middle Wabash. Flooding on the lower Embarrass and Wabash Rivers continued into July. Damage estimates by the Corps of Engineers for the May-June flooding are: Wabash River, \$6,795,000 and 178,000 acres flooded; Embarrass River, \$2,847,000 and 52,000 acres flooded; White River Basin, \$3,860,000 with 106,000 acres flooded; and the Little Wabash Basin, \$131,000 with 5,000 acres flooded. About 75 percent of the damage was to crops with additional delays in replanting.		
Lower Ohio River	Serious flooding occurred along the lower Ohio River below Uniontown, Ky., primarily due to heavy inflow from the Wabash Basin the latter part of May. Crest stages were generally in the range of 5-6 feet over flood stage. Minor flooding of about 1 foot occurred from below Evansville to Uniontown. A second rise along the lower Ohio from tributary flooding in June crested several feet below flood stage late in the month. Damage from May-June flooding amounted to \$2,568,000 with 110,000 acres inundated as estimated by the Corps of Engineers for the reach from Hawesville, Ky., to Lock and Dam 50. Estimates for the remainder of the flooded area are not yet available.	0	N.A.
WHITE BASIN			
Cache, Black and White Rivers	Flooding continued from May on the Lower Black and the Cache River at Patterson, Ark., and ended briefly on the lower Black on the 5th. Heavy rain on the 5th-10th caused a return to flood conditions on the lower Black with a crest of nearly 8 feet over flood stage. About 2 feet of flooding occurred on the lower White and a second crest occurred at Patterson. Damage was mainly agricultural.	0	N.A.
ARKANSAS BASIN			
Arkansas Basin in Kansas	Heavy rains in east central and southeast Kansas on the 4th-7th caused brief minor flooding on portions of several streams, including the Cottonwood, Neosho, Little Arkansas, and Chikaskia Rivers. At Diamond Springs 3.5 inches fell on the night of the 5th causing the flooding at Plymouth on the Cottonwood. Although no reporting stations went over flood stage crop damage estimated at \$60,000 occurred along the Verdigris and some tributaries just above the Oklahoma border with 3,000 acres affected.	0	N.A.
Arkansas River Basin	Rainfall was above normal over eastern Oklahoma during June with several stations reporting monthly totals of 10 to 12 inches. Most of this rain occurred during the period of the 4th-10th with a number of stations reporting 24-hour totals of more than 4 inches at 7 a.m. on the 9th. Minor to moderate flooding occurred on a number of tributaries to the Arkansas. Serious flooding with crest stages 10 to 12 feet over flood stage occurred on the Deep Fork and Illinois Rivers and Polecat Creek. In Tulsa 300 homes received major	6	10,000

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS-Continued

JUNE 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
ARKANSAS BASIN-Cont'd			
	damage and about 20 homes were flooded in Muskogee. Tahlequah on the Illinois received \$100,000 damage. In Lincoln County road and bridge damage was estimated at \$750,000. Damage in Oklahoma County was estimated at \$3 million.		
Arkansas Basin in Arkansas	Heavy rainfall of up to 10 inches during the period of the 5th-10th resulted in a crest 5.3 feet over flood stage at Benton on the Fourche La Pave River. In spite of heavy inflow from some upstream tributaries the only point on the Arkansas River to go over flood stage was Ozark where minor flooding occurred.	0	N.A.
RED BASIN			
Middle Red Basin	Heavy rainfall during the period of the 5th-10th caused flooding on several streams. Storm totals ranged up to 8 inches in northeastern Texas and somewhat less in southeastern Oklahoma. From 2 to 4 feet of flooding occurred along Clear and Muddy Boggy Creeks in Oklahoma. Widespread lowland flooding occurred along the Sulphur River above Wright Patman Lake with crests of 4-8 feet over flood stage. There was one flood-related death in Webster Parish, La. Urban flooding occurred at Clarksville, Texas, on the 4th from 2.3 inches of rain in a short time.	1	N.A.
Ouachita River Basin	Rainfall totals for the period of the 5th-10th ranged to more than 12 inches causing sharp rises on streams in the Upper Ouachita Basin. The Saline River crested 5.6 feet over flood stage at Benton, Ark., and the upper Ouachita crested 10.0 feet and 13.5 feet above flood stage at Arkadelphia and Camden, Ark., respectively. There were four river flood-related deaths in Union and Ouachita Parishes in northwest Louisiana. In addition, two people drowned in severe urban flooding in the El Dorado-Calion area of Arkansas on the 7th-8th. Damage was primarily agricultural in Arkansas but considerable flooding of secondary roads occurred in northern Louisiana.	4	N.A.
LOWER MISSISSIPPI BASIN			
Yazoo and Big Black River Basins	Monthly rainfall totals were generally in the range of 4 to 8 inches with some amounts over 10 inches in northwest Mississippi. Minor flooding occurred on the Tallahatchie, tributary of the Yazoo, and fairly widespread lowland flooding occurred on the lower Yazoo. Damage was primarily agricultural with some interruption of logging operations along the Big Black River.	0	N.A.
Lower Mississippi Main Stem	Heavy inflow from the upper Mississippi and Ohio Rivers caused up to 2.4 feet of flooding along the reach of the lower Mississippi from New Madrid to Caruthersville, Missouri. Damage was limited to agricultural land. This rise caused only minor flooding downstream from about Vicksburg, Miss., to Baton Rouge, La., later in the month.	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS-Continued

JUNE 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
WEST GULF OF MEXICO DRAINAGE			
Sabine and Trinity River Basins	Several periods of significant precipitation occurred during June over north central and northeast Texas, with the most serious being on the 7th-10th when four-day accumulations of 3 to 8 inches were reported. Intermittent minor flooding occurred along the East Fork of the Trinity River. A brief period of minor flooding occurred on the lower Trinity at Moss Bluff, Texas. Extended periods of overflow occurred along the Upper Sabine River.	0	N.A.
	Flash and/or urban flooding occurred in the Dallas-Fort Worth area on the 7th and 12th and in the Longview area on the 9th where 3.5 inches of rain were reported.		
Brazos River Basin	Flooding occurred on the 3d-4th along Running Water Creek from Plainview, Texas, downstream to White River Reservoir. The cause of the flooding was a center of intense rainfall, estimated at 5 inches, over the headwaters of the Creek east of Clovis, New Mexico. The crest at Plainview, 2.3 feet over flood stage, occurred 15 hours after the rain ended. Damage to homes and businesses in Plainview was estimated at \$35,000 with 45 homes flooded. There was some road damage and extensive damage to farm land.	0	N.A.
Navidad-Lavaca Basin	Heavy rainfall which averaged about 3 inches over the basin the night of the 9th-10th caused flooding along the Navidad River. A crest stage 4.6 feet over flood stage was reported at Canado, Texas. A sharp rise also occurred on the Lavaca River which crested just under flood stage.	0	N.A.
GULF OF CALIFORNIA DRAINAGE			
Lower Colorado River Basin	As of the end of June several streams in the basin were approaching record low levels after 10 months of below normal precipitation. Phoenix, Arizona, had registered 89 consecutive days without measurable precipitation. These streams were the Gila, San Pedro, Salt, and Little Colorado Rivers. The Santa Cruz River at Nogales had a record 10 months without any flow.		
COLUMBIA BASIN			
Upper Columbia River Basin	Below normal temperatures during May and early June retarded melting of a snowpack which, for some sub-basins, was nearly 200 percent of normal as of June 1. A rapidly-rising temperature trend beginning about the 10th caused rapid melting of the excessive snowpack and minor flooding along several streams. The North Fork of the Flathead River washed out a bridge at Polebridge, Mont., on the 18th. A dike along the Bitterroot River failed near Lolo, Mont., on the 18th causing some residential damage. Flooding of farmland around Pend Oreille Lake and along the Clark Fork, Flathead, Pend Oreille, and St. Joe Rivers was reported.	0	N.A.
Snake River Basin	Rapid melting of an above normal snowpack also caused flooding in the Snake River Basin with record stages	0	1,311

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS-Continued

JUNE 1974

Basins
and
Streams

FLOOD EVENT

Lives
Lost

Preliminary Estimate
of Property Damage
(thousands of dollars)

COLUMBIA BASIN-Cont'd

reached along the Salmon River. The crest stage at Whitebird, Idaho, of 35.8 feet exceeded flood stage by 3.8 feet and was second only to the flood of June 1894 which reached a stage of 37.5 feet. At Salmon, Idaho, the crest of 8.6 feet exceeded the previous modern record of 8.25 feet, which occurred in May 1956. On the Big Wood River the gaging station at Hailey, Idaho, was damaged. Several hundred feet of Levee were washed out near Bellevue flooding a Bible School Camp and some residences. Along the Payette River below Horseshoe Bend farmland was flooded since a protective levee was damaged by an ice jam earlier in the spring. Farmland was flooded along the Big Lost River near Leslie when a levee failed. Nine families were evacuated along the Gros Ventre River in the Jackson Hole area of Wyoming. Along the Teton River 20 bridges and culverts were destroyed. Storage in Jackson Lake and Palisades Reservoir prevented a major flood along the Henry's Fork of the Snake River although some minor flooding occurred. Some minor flooding was reported along the Clearwater River and the Snake River around Blackfoot. Most of the damage along streams in the Snake Basin was to highways, rural roads, and bridges.

Lower Columbia
River Basin

As in some other portions of the Columbia Basin rapid melting of an excessive snowpack caused flooding along several tributaries of the Columbia River draining the east slope of the Cascades. Streams affected included the Okanogan, Methow, Entiat, Wenatchee, Naches, and Yakima Rivers. In most cases damage was relatively light. Breached dikes near Oroville, Wash., on the Okanogan caused evacuation of 20 families. In the Yakima Basin damage was estimated at \$210,000 by the Corps of Engineers with about 25 homes flooded along the Naches River, a tributary of the Yakima.

0

N.A.

Flooding occurred on the lower Columbia River at Vancouver, Wash., with a crest 5.1 feet above flood stage. Considerable pastureland was flooded with amount of damage unknown. Backwater from the Columbia caused flooding on the Willamette River at Portland, Oreg., with a crest 2.3 feet over flood stage.

PUERTO RICO

Severe to extreme meteorological drought continued during June. Average rainfall over the island was 2.61 inches for the month, about 42 percent of normal. The total rainfall of 17.32 inches for the first 6 months of the year was second only to 1967 as the lowest total for the period on record. As of the end of June the Loiza River Reservoir, which supplies the San Juan area, had only a 45 day's supply left.

A few heavy local showers of up to 7.7 inches caused minor urban flooding on the northwest slope of the island.

(All rates in % unless otherwise specified)

JUNE 1974

- 28 -

FLOOD STAGE DATA

1911 dates in line below otherwise 1912

River and station	Flood stage	Above flood stages - dates ¹		Crest ¹	
		From—	To—	Stage	Date ¹
Upper Mississippi Basin	Ft			Ft	
Vermilion River:					
Lemore, Ill.	18	21	27	13.41 20.57	8 23
Salt Creek:					
Rockport, Ill.	18	22	26	19.81	24
Sangamon River:					
Springfield, Ill.	13	22	27	15.62	24
Oakford, Ill.	18	23	30	21.75	25
Illinois River:					
Marion, Ill.	13	8 13	10 14	#13.7 #13.9	9 23
La Salle, Ill.	2	May 17 21	July 10 4	#21.7 #25.2	May 23 24
Peoria, Ill.	14	May 19	July 8	#24.8	26
Rayma, Ill.	14	May 18	July 17	#24.6	28
Beardstown, Ill.	14	May 19	July 19	#26.2	29
Meredosia, Ill.	32	May 26	July 17	#26.8	30
Mississippi River:					
Alton, Iowa	16	23	26	16.94	24
Le Claire, Iowa (dam 14 TW)	11	24	24	11.12	24
Davenport, Iowa	16	23	28	17.0	25
Muscatine, Iowa	16	22	30	19.10	26
Keokuk, Iowa	12	11	July 2	16.9	26
Burlington, Iowa	16	16 19	16 July 1	15.0 18.5	16 26
Keosau, Iowa (dam 19 TW)	16	24	July 1	18.3	27
Gregory Landing, Mo.	15	May 18 20	July 3	20.01 18.83	May 21 27
Quincy, Ill.	17	May 18 9 20	July 4 12 1	23.00 17.6 21.1	May 22 11 28
Hannibal, Mo.	16	May 18 8	July 6	23.27 21.31	May 22 28
Louisiana, Mo.	15	May 18	July 6	19.19	29
Clarksville, Mo. (dam 24 TW)	25	May 18	July 7	31.27	2
Winfield, Mo. (dam 25 TW)	26	May 19	July 7	32.54	4
Grafton, Ill.	18	May 19	July 9	25.80	3
Alton, Ill. (dam 24 TW)	21	May 20 28	July 20 5	27.71 25.56 22.42	May 25 13 1
St. Louis, Mo.	30	2 11	5 15	31.13 30.65	3 13
Chester, Ill.	21	May 21	21	32.50 31.33	May 25 15
Cape Girardeau, Mo.	32	May 22	21	36.92 36.02	May 27 15
Thebes, Ill.	33	May 22	19	36.33 35.45	May 27 15
Missouri Basin					
Big Hole River:					
Divide, Mont.	6.5	6 14	7 21	6.6 7.8	6-7 17
Melrose, Mont.	6	15	21	7.07	17
Jefferson River:					
Sappington, Mont.	9	18	21	9.2	19-20
Gallatin River:					
Gallatin Gateway, Mont.	32	13	17	33.8	17-18
Logan, Mont.	7.5	15	23	9.02	18
Boulder River:					
Big Timber, Mont.	7	15	21	7.85	18
Stillwater River:					
Absarokee, Mont.	6.5	17	21	7.1	18
Yellowstone River:					
Clarks Fork Yellowstone River:					
Edgar, Mont.	8.5	16	20	8.7	18
Yellowstone River:					
Livingston, Mont.	8	14	26	9.20	17
Billings, Mont.	15	16	17	14.58	19
Bozeman, Mont.	13	20	24	13.64	22
Floyd River:					
Alton, Iowa	12	22	23	13.85	22
Tarkio River:					
Fairfax, Mo.	17	17	17	17.93	23
One Hundred and Two River:					
Maryville, Mo.	14	9	11	17.0	10
Rosendale, Mo.	14	9	12	18.62	11
Little Platte River:					
Smithville, Mo.	20	8	10	26.89	9
Platte River:					
Agency, Mo.	1	1 9	1 1	20.08 24.65	1 11
Black Vermilion River:					
Brainerd, Minn. (dam 24 TW)	19	19	10	22.40	9
Mill Creek:					
Paxico, Kans.	19	19	19	23.1	9
Delaware River:					
Muscotah, Kans.	25	25	25	25.62	9
Stranger Creek:					
Easton, Kans.	13	9	9	#16.22	9
Blue River:					
Kansas City, Kanister Rd., Mo.	21	8	8	26.15	8
Little Blue River:					
Lake City, Mo.	18	9	10	21.85	9
Grand River:					
Pattonsburg, Mo.	25	9	10	29.10	10
Gallatin, Mo.	21	10	11	24.3	11
Chillicothe, Mo.	24	8	12	30.2	10
Summer, Mo.	26	1 7	2 15	30.33 33.89	1 12
Brunswick, Mo.	12	1 16	2 16	17.88 17.88	2 11
Chariton River:					
Chariton, Iowa	15	9 13	11 14	17.70 16.51	12 11
Prairie Hill, Mo.	15	1 8	1 10	17.8 18.6	1 11
Blackwater River:					
Blue Lick, Mo.	25	25	25	25.23	8
Pottawatomie Creek:					
Garnett, Kans.	26	9	9	26.4	9
Marais Des Cygnes River:					
Reading 3 N, Kans.	25	9	9	22.40	9
Lacygne, Kans.	25	11	11	25.32	10
Missouri River:					
Toston, Mont.	10	16	23	11.32	18
St. Joseph, Mo.	17	17	10	17.5	17
Sibley, Mo.	22	11	11	23.69	10
Napoleon, Mo.	17	9	11	18.8	10
Lexington, Mo.	22	10	12	26.6	10
Waverly, Mo.	18	10	12	21.8	11
Glasgow, Mo.	18	10	12	26.4	11

FLOOD STAGE DATA

ALL DATES IN PAST UNLESS OTHERWISE SPECIFIED

JUNE 1974

River and station	Flood stage	Above flood stages -dates ¹		Crest ¹	
		From--	To--	Stage	Date ¹
	Ft.			Ft.	
<u>Missouri River-Continued:</u>					
Hermann, Mo.	21	10	12	23.03	11
	21	1	1	23.8	12
		9	14		
		1	2	25.9	1
		9	16	27.4	18
Weston, W. Va.	17	1	2	20.0	1
	7	1	3	9.24	2
Tygart Valley:					
	14	2	2	14.6	1
				14.8	3
	17	1	1	18.91	2
Monongahela:					
Charleroi, Pa.	24	23	24	27.9	24
Braddock, Pa.	24	24	24	20.1	24
Glenville, W. Va.	24	1	1	27.57	2
Creston, W. Va.	24	1	1	25.69	2
Scioto:					
	16	1	1	20.30	24
Kings Mills, Ohio	17	22	23	22.00	23
	12	22	23	215.0	23
Hazard, Ky.	20	22	23	27.0	22
	29	22	24	33.77	28
Eagle Creek:					
	7	22	24	11.10	28
Danville, Ill.	24	23	25	21.3	24
Sugar Creek:					
Crawfordsville, Ind.	8	23	24	8.43	23
Embarrass:					
Ste. Marie, Ill.	18	May 25	30	22.46 19.27	1 28
	11	May 17	23	20.45 15.47	4 1
		23	July 3		
Seymour, Ind.	24	27	27	14.47	26
White:					
		23	25	604.0	24
	18	May 24	27	17.27	25
Elliston, Ind.	18	May 31	3	22.16 21.04	1 27
Edwardsport, Ind.	18	May 31	5	20.3 17.8	2 24
Petersburg, Ind.	16	1	6	20.60	4
Hazleton, Ind.	28	7	7	21.1	
Little Wabash:					
Wilcox, Ill.	16	May 22	29	20.32	24
Wabash:					
Covington, Ind.	24	25	25	17.03	24
Montezuma, Ind.	14	May 17	2	22.73 22.46	25
Clinton, Ind.	18	E23	E27	E22.5	E25
Terre Haute, Ind.	14	May 17	20.1	May 23	23
		23	19.2	25	25
Hutsonville, Ill.	24	26	29	22.9 21.3	May 24 27
<u>Ohio Basin-Cont'd</u>					
Wabash-Continued:					
Vincennes, Ind.	16	May 21	6	20.63 18.15	May 26 29
Mt. Carmel, Ill.	17	May 22	8	A21.94	5
		29	July 2	17.88	July 1
Harperth:	15	May 24	8	A16.8	6
Kingston Springs, Tenn.	15	1	2	16.87	1
Cumberland:					
Barbourville, Ky.	27	2	2	27.6	2
Tennessee:					
Gilbertville, Ky.	320MSL	2	3	320.92 325.72	1 11
Ohio:					
Mt. Vernon, Ind.	35	6	8	#36.2	8
Uniontown, Ky., Dam 49	37	7	9	#38.2	8
Shawneetown, Ill.	33	5	10	#37.8	8
Fords Ferry, Ky., Dam 50	34	5	11	#39.6	9
Brookport, Ill., Dam 52	37	8	12	#39.0	10
Cairo, Ill.	40	May 23	19	A46.47	11
<u>White Basin</u>					
Cache:					
Patterson, Ark.	7	May 16	26	A 9.4	9
Black:					
Pocahontas, Ark.	17	12	13	17.25	13
Black Rock, Ark.	14	May 13	5	22.6 21.8	May 16 11
White:					
Clarendon, Ark.	21	13	16	21.2	14
St. Charles, Ark.	26	8	27	28.0	16
	25	9	1	27.1	19
<u>Arkansas Basin</u>					
Little Arkansas:					
Sedgwick, Kans.	18	9	9	19.0	9
Chikaskia:					
	10	7	7	10.05	7
Cottonwood Creek:					
	23	8	11	24.70	8
Cimarron:					
Guthrie, Okla.	10	8	8	#10.52	8
Polecat Creek:					
Sapulpa, Okla.	21	8	11	#32.59	10
Jenks, Okla.	14MSL	8	11	#622.1	9
Little Caney:					
Copan, Okla.	21	7	11	22.8	9
Bird Creek:					
Sperry, Okla.	21	8	11	#23.95	9
Ovasso, Okla.	24.5	8	11	24.70	8
Verdigris:					
Lenapah, Okla.	30	7	8	30.5	8
Cottonwood:					
Plymouth, Kans.	28	9	10	30.29	10
Spring:					
Quapaw, Okla.	10	7	10	25.5	8
Neosho:					
	17	7	8	21.00	8

FLOOD STAGE DATA

(All dates in June unless otherwise indicated)

River and station	Flood stage	Above flood stages - dates ¹		Crest ²		River and station	Flood stage	Above flood stages - dates ¹		Crest ²	
		From—	To—	Stage	Date ³			From—	To—	Stage	Date ⁴
	Ft.			Ft.			Ft.			Ft.	
<u>ATLANTIC COAST BASIN</u>						<u>WEST GULF OF MEXICO DRAINAGE-Cont'd</u>					
Neuse-Littleton:						Running Water Creek:					
Commerce, N.C.	15	8	10	#19.6	8	Wilmington, Texas	4.5			6.8	
Illinois:						Navidad:					
Waukegan, Ill.	11	8	11	#22.5	9	Waukegan, Ill.	21	10	13	25.62	12
Deep Fork:						Guadalupe:					
Deer, Ark.	18	8	24	#30.34	10	Guadalupe, Texas	20				
Illinois:						<u>Columbia Basin</u>					
Poteau, Okla.	25		8	#25.74	8	Flathead:					
Panama, Okla.	25	7	10	#28.54	8	Columbia Falls, Mont.	13	14	21	15.2	18
Fourche La Pave:						Clark Fork:					
Houston, Ark.	7		13	30.30	10	Missoula, Mont. (Below)	11	17	21	11.4	18
Arkansas:						Pend Oreille Lake:					
Ark. Div. of Geol. & Nat. Hist., Ark.	352M1	10	13	357.90	12	Hope, Idaho	62.5	17	30	65.4	23
<u>Red River Basin</u>						Pend Oreille:					
Clear Fork:						Newport, Wash.	49	17	30	53.1	25
Caney, Okla.	19	8		#26.5	9	St. Joe:					
Madison, Ark.	28		10	#42.4	8	Calder, Idaho	13	E15	E18	E13.5	E17
Sulphur:						Okanogan:					
Hagans, Ark.	44	7	13	47.85	8	Idaho, Wash.	15	14	16	18.8	19
Naples, Texas	22	9	22	29.98	12	Methow:					
Saline:						Pateros, Wash.	10	15	21	10.9	17
Benton, Ark.	20	7		25.59	8	Entiat:					
Quachita:						Argenself, Wash.	4,400 c.f.s.	15	18	5,250 c.f.s.	17
Arkadelphia, Ark.	17	7	10	27.0	8	Wenatchee:					
Camden, Ark.	26	8	26	39.5	12	Peshastin, Wash.	13	15	21	13.8	17
<u>Lower Mississippi Basin</u>						Naches:					
Tallahatchie:						Naches, Washington	17	1	22	17.0	17
Indian Lake, Miss.	26	May 19	26	31.4	21	Yakima:					
Yazoo:						Parker, Wash.	10	16	24	10.5	23
Yazoo City, Miss.	29	10	30	30.0	10	Henry's Fork:					
Big Black:						Rexburg, Idaho	9	May 28	1	9.75	7
West, Miss.	12	8	July 1	17.8	18			17	26	9.49	20
Mississippi:						Big Wood:					
New Madrid, Mo.	34	8	15	#35.4	12	Hall's, Utah	6.5	14	17	E 7.0	15
Caruthersville, Mo.	32	5	18	34.4	13	Payette:					
Vicksburg, Miss.	41	19	22	43.2	20	Emmett, Idaho	16,000 c.f.s.		24	18,500 c.f.s.	23
Natchez, Miss.	45	20	26	48.3	21	Salmon:					
Red River Landing, La.	45	16	28	46.75	23	Salmon, Idaho		13	17	17	17
Baton Rouge, La.	38	23	26	35.2	24	Whitebird, Idaho	32	14	21	35.8	18
<u>Atchafalaya Basin</u>						Clearwater:					
Atchafalaya:						Orofino, Idaho	17	15	19	17.50	5
Morgan City, La.		May 29	July 19	8.4	28-30	Spalding, Idaho	18	16	18	18.60	17
<u>WEST GULF OF MEXICO DRAINAGE</u>						Willamette:					
Sabine:						Portland, Ore.	11	17	18	20.3	22
Emory, Texas	12	8	20	13.66	12	Columbia:					
Mineola, Texas	14		23	16.54	17	Vancouver, Wash.	16	15	July 5	21.1	22
Cladevater, Texas	26		23		18						
Longview, Texas	25	10	13	26.18	11						
<u>East Fork Trinity</u>											
Grandall, Texas	13	10	11	14.39	10						
		13	13	13.09	13						
		18	18	14.20	20						
Trinity:											
Moss Bluff, Texas	4	8	10	4.20	9						

RAWINSONDE DATA

Average monthly values

PIR 1974

ALBANY, N. Y. 1005 MB										ALBUQUERQUE, N. MEX. 837 MB										AMARILLO, TEXAS 890 MB										ANCHORAGE, ALASKA 1005 MB										ANNETTE, ALASKA 1011 MB																																																																																																																		
Standard pressure surface (mb)										Standard pressure surface (mb)										Standard pressure surface (mb)										Standard pressure surface (mb)										Standard pressure surface (mb)																																																																																																																		
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1000	30	88	15.5	13.0	17	0	30	17019	19.1	1	26	2.1	30	17095	17.0	9.7	18	9.7	28	45	10.6	4.2	16	3.5	30	37	7.8	5.8	15	1.6	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																										
950	30	154	14.4	10.9	17	0	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	110	11.4	4.3	17	3.8	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																
900	30	569	14.9	9.7	14	1.4	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	522	9.1	1.9	18	3.0	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																
850	30	1026	13.1	6.2	14	1.9	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	968	6.6	0.0	20	3.0	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																
800	30	1504	10.2	3.7	24	2.8	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	1435	3.4	-2.3	19	1.1	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																
750	30	2007	7.0	0.6	24	2.8	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	1925	-4.4	-4.0	09	0.0	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																
700	30	2535	-1.9	-4.9	24	5.2	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	2439	-2.9	-8.5	07	0.0	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																
650	30	3094	-1.4	-11.2	24	6.9	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	2982	-6.4	-11.9	09	0.0	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																
600	30	3687	-1.4	-14.7	24	8.8	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	3559	-9.7	-17.2	07	0.0	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																
550	30	4321	-9.9	-19.3	24	10.8	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	4172	-13.6	-21.0	05	1.7	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																
500	30	5000	-9.9	-23.5	24	12.2	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	4828	-18.0	-27.4	03	2.6	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																
450	30	5732	-13.4	-28.7	24	14.3	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	5534	-23.0	-31.2	02	3.3	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																
400	30	6525	-18.9	-32.3	24	16.8	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	6298	-28.3	-34.9	02	3.8	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																
350	30	7392	-24.9	-37.4	24	20.3	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	7132	-34.4	-41.5	02	4.2	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																
300	30	8352	-31.6	-43.0	24	24.5	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	8055	-41.4	02	5.7	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																	
250	30	9422	-39.4	-47.6	23	28.8	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	9081	-49.3	01	5.3	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																	
200	30	10647	-48.4	24	28.4	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	10261	-54.2	36	5.3	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																		
150	30	12000	-55.9	28	26.1	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	11761	-50.4	38	5.3	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																		
100	30	12930	-57.6	25	23.0	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	12575	-49.1	30	5.3	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																		
50	30	13907	-58.6	25	19.7	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	13589	-48.5	28	1.2	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																		
0	30	15053	-58.6	23	13.5	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	14791	-48.5	27	1.0	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																		
	30	16054	-59.2	23	7.7	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	16262	-47.7	24	0.9	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																		
	30	17659	-7.5	23	1.8	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	17737	-47.7	20	1.4	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																		
	30	18705	-56.6	23	0.9	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	18621	-47.2	19	1.1	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																		
	30	19686	-55.3	23	0.8	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	19641	-47.1	14	1.0	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																		
	30	20894	-53.7	23	0.7	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	20789	-46.7	11	1.5	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																		
	30	22201	-51.0	23	0.6	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	22178	-46.4	9	1.2	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																		
	30	24170	-49.8	23	0.5	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	24005	-45.8	09	0.9	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																		
	30	25368	-47.7	23	0.4	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	25253	-44.5	09	0.5	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																		
	30	26851	-46.8	23	0.4	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	26723	-43.8	09	0.4	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																		
	30	28794	-46.8	23	0.3	30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28	28637	-43.6	09	0.3	30	128	8.1	6.1	1.5	2.2	30	551	5.3	3.7	16	4.1	30	991	2.5	1.1	17	5.1																																																																																																																		
	30						30	20008	19.0	-2.0	09	-7.30	30	20007	17.6	1.9	25	4.5	28				08	11.0	21	28.928	-39.4	09	8.9	19	31.773	-35.3	09	8.0	30	31.773	-35.3	09	8.0	30	31.773	-35.3	09	8.0	30	31.773	-35.3	09	8.0	30	31.773	-35.3	09	8.0	30	31.773	-35.3	09	8.0	30	31.773	-35.3	09	8.0	30	31.773	-35.3	09	8.0	30	31.773	-35.3	09	8.0	30	31.773	-35.3	09	8.0	30	31.773	-35.3	09	8.0	30	31.773	-35.3	09	8.0	30	31.773	-35.3	09	8.0	30	31.773	-35.3	09	8.0	30	31.773	-35.3	09	8.0	30	31.773	-35.3	09	8.0	30	31.773	-35.3	09	8.0	30	31.773	-35.3	09	8.0	30	31.773	-35.3	09	8.0	30	31.773	-35.3	09	8.0	30	31.773	-35.3	09	8.0	30	31.773	-35.3	09	8.0	30	31.773	-35.3	09	8.0	30	31.773	-35.3	09	8.0	30	31.773	-35.3	09	8.0

Average monthly values

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Average monthly values

GRAND JUNCTION, COLO. 82 MB										WRECK FALLS, MONT. 886 MB										GREEN BAY, WIS. 987 MB										GREENSBORO, N. C. 984 MB										GUADALUPE IS., MEXICO 1010 MB									
Standard pressure surface mb	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed													
1000	30	1.472	15.6	-5.12	3.7	3.0	1.118	13.1	3.5	23	3.0	3.0	210	11.2	8.3	27	1.0	3.0	275	17.5	16.2	30	3.7	23	15.5	13.5	32	7.6	1000	23	15.5	13.1	32	7.6															
990	19	1.496	18.1	-1.0	12	4.1	1.468	15.7	1.1	24	5.1	3.0	965	12.2	4.3	29	3.2	3.0	575	17.7	12.9	30	4.9	27	54.2	15.7	6.9	32	8.0	990	27	54.2	15.7	6.9	32														
980	30	2.088	18.6	-1.8	13	3.2	1.979	12.4	-1.2	27	5.4	3.0	1.960	5.6	-4	27	4.3	3.0	1.037	16.0	9.1	29	2.5	27	1.006	21.4	-2.5	34	3.2	980	30	2.029	10.3	2.3	26	4.6													
970	30	2.550	15.9	-4.5	17	3.2	2.517	8.3	-3.3	27	5.8	3.0	2.485	2.7	-5.8	28	4.3	3.0	1.521	13.4	5.4	27	3.3	27	1.502	22.0	-2.6	32	3.6	970	30	2.584	7.3	-2.5	26	6.0													
960	30	3.131	11.7	-7.7	28	5.0	3.082	4.2	-3.8	6.8	3.0	3.061	-2	-10.9	29	6.5	3.0	3.128	8.3	12.9	4.0	-6.4	28	6.7	3.158	12.3	-10.0	25	2.7	960	30	3.061	-2	-11.7	27	8.3													
950	30	3.766	5.7	-10.2	28	5.0	3.681	-2	-11.7	27	8.3	3.0	3.630	-3.6	-15.1	29	6.5	3.0	3.728	.8	-11.2	26	7.7	27	3.774	7.7	-12.3	22	1.8	950	30	3.766	5.7	-10.2	28	5.0													
940	30	4.396	1.2	-13.2	28	6.7	4.318	-3.9	-16.6	27	11.1	3.0	4.259	-7.1	-20.7	29	7.5	3.0	4.367	-2.6	-15.4	25	9.1	27	4.427	2.6	-14.7	19	2.7	940	30	4.396	1.2	-13.2	28	6.7													
930	30	5.088	-4.9	-16.1	28	8.0	4.998	-8.8	-20.1	27	12.9	3.0	4.932	-11.4	-25.0	29	8.5	3.0	5.052	-6.7	-21.1	24	10.2	27	5.124	-7.7	-18.6	19	3.4	930	30	5.088	-4.9	-16.1	28	8.0													
920	30	5.828	-11.2	-19.8	28	10.3	5.729	-14.3	-24.5	27	14.7	3.0	5.657	-15.9	-29.4	29	9.6	3.0	5.790	-11.2	-26.5	24	11.7	27	5.872	-7.9	-24.5	19	3.7	920	30	5.828	-11.2	-19.8	28	10.3													
910	30	6.629	-16.7	-27.6	28	11.8	6.520	-20.0	-30.8	27	17.7	3.0	6.442	-21.2	-34.9	29	10.2	3.0	6.591	-16.2	-31.1	24	13.1	27	6.682	-13.5	-31.1	20	3.4	910	30	6.629	-16.7	-27.6	28	11.8													
900	30	7.503	-23.1	-35.7	29	14.1	7.381	-26.2	-37.7	27	18.0	3.0	7.301	-27.3	-40.7	29	11.6	3.0	7.467	-22.5	-37.0	24	14.5	27	7.567	-19.9	-37.4	22	4.2	900	30	7.503	-23.1	-35.7	29	14.1													
890	30	8.470	-30.0	-42.8	29	12.6	8.337	-33.2	-42.4	28	18.5	3.0	8.252	-34.4	-45.8	30	13.0	3.0	8.438	-29.4	-42.7	24	16.6	27	8.547	-27.0	-43.4	23	5.8	890	30	8.470	-30.0	-42.8	29	12.6													
880	30	9.568	-38.1	-49.6	29	14.5	9.399	-41.5	-49.0	28	20.2	3.0	9.309	-42.0	-49.2	30	14.6	3.0	9.517	-37.5	-48.7	24	18.9	26	9.636	-35.4	-50.1	23	6.7	880	30	9.568	-38.1	-49.6	29	14.5													
870	30	10.780	-46.6		29	17.8	10.614	-49.3		28	21.8	3.0	10.525	-48.6		29	16.5	3.0	10.751	-44.7		24	21.1	26	10.882	-46.6		22	7.9	870	30	10.780	-46.6		29	17.8													
860	30	12.232	-55.0		29	19.4	12.356	-54.6		27	23.6	3.0	11.975	-53.4		29	15.9	3.0	12.197	-56.6		25	20.2	26	12.341	-55.1		23	9.8	860	30	12.232	-55.0		29	19.4													
850	30	13.079	-57.8		29	18.7	12.910	-54.8		27	21.7	3.0	12.833	-56.3		29	14.7	3.0	13.037	-59.9		25	18.6	26	13.185	-60.0		23	9.3	850	30	13.079	-57.8		29	18.7													
840	30	14.065	-60.8		29	16.8	13.896	-54.9		27	19.2	3.0	13.820	-54.8		29	12.7	3.0	13.995	-61.9		25	15.0	26	14.135	-65.4		23	9.7	840	30	14.065	-60.8		29	16.8													
830	30	15.170	-64.4		28	12.5	15.056	-57.1		28	15.0	3.0	14.985	-55.5		30	8.5	3.0	15.118	-63.7		26	11.0	25	15.233	-70.6		23	5.5	830	30	15.170	-64.4		28	12.5													
820	30	16.525	-66.7		29	7.2	16.465	-57.8		28	7.5	3.0	16.404	-56.2		30	5.9	3.0	16.488	-62.9		26	5.0	25	16.544	-73.3		22	2.9	820	30	16.525	-66.7		29	7.2													
810	29	17.887	-63.0		30	1.0	17.887	-56.2		28	3.4	3.0	17.821	-56.2		33	2.7	3.0	17.866	-61.6		26	6.2	24	17.857	-70.1		20	7.7	810	29	17.887	-63.0		30	1.0													
800	29	18.713	-60.9		30	1.5	18.713	-56.2		29	9.3	3.0	18.670	-55.9		30	1.7	3.0	18.696	-60.7		26	8.4	23	18.658	-60.7		17	6.6	800	29	18.713	-60.9		30	1.5													
790	28	19.673	-58.9		08	3.3	19.719	-55.7		04	8.30	3.0	19.653	-55.0		04	1.7	29	19.662	-58.3		08	4.0	22	19.597	-63.1		09	7.3	790	28	19.673	-58.9		08	3.3													
780	28	20.825	-56.6		09	5.8	20.893	-52.3		06	2.5	29	20.822	-53.8		07	3.8	28	20.817	-55.8		09	6.5	22	20.729	-59.8		08	9.1	780	28	20.825	-56.6		09	5.8													
770	27	22.244	-54.5		08	6.9	22.245	-51.2		08	5.4	29	22.260	-52.6		08	5.6	27	22.242	-53.6		10	7.2	21	22.133	-56.5		08	9.9	770	27	22.244	-54.5		08	6.9													
760	27	24.103	-50.9		08	8.5	24.225	-47.4		08	6.8	28	24.127	-50.6		08	7.8	27	24.108	-50.3		09	7.9	18	23.970	-53.0		08	10.9	760	27	24.103	-50.9		08	8.5													
750	24	25.276	-45.9		08	9.2	25.254	-47.5		08	7.4	28	25.375	-48.5		08	8.5	23	25.295	-48.9		09	8.4	17	25.152	-51.5		08	10.9	750	24	25.276	-45.9		08	9.2													
740	20	26.768	-47.0		07	7.5	26.908	-45.2		08	8.8	28	26.796	-46.3		08	8.9	18	26.769	-46.0		09	10.3	14	26.613	-47.9		08	10.0	740	20	26.768	-47.0		07	7.5													
730	23	28.687	-43.4		09	10.6	28.839	-42.7		09	5.1	21	28.718	-43.8		09	10.5	13	28.696	-42.7		09	12.1	7	28.505	-45.0					730	23	28.687	-43.4		09	10.6												
720	15	31.465	-38.7		11	31.614	-37.3						31.494	-38.8																																			

GUAM, MARIANA IS. 998 MB						HILO, HAWAII 1016 MB						HUNTINGTON W. VA. 985 MB						INTERNATIONAL FALLS, MINN. 968 MB						JACKSON, MISS. 1003 MB							
SURFACE	30	111	24.5	23.7	11	1.8	30	10	21.0	18.6	23	1.7	30	24.6	15.8	13.5	21	.9	30	359	10.7	6.1	26	.4	30	100	19.5	17.4	17	1.3	
1000							30	149	21.8 <td>17.2</td> <td>22</td> <td>1.2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>25</td> <td>30</td> <td>19.7</td> <td>16.1</td> <td>17</td> <td>1.2</td> <td></td> <td></td> <td></td> <td></td> <td></td>	17.2	22	1.2								25	30	19.7	16.1	17	1.2						
980	30	542	23.5	21.1	11	4.1	30	593	18.5	15.9	12	1.8	30	557	17.1	12.0	23	4.3	30	518	13.4	6.0	26	1.7	30	568	20.6	14.8	21	2.2	
960	30	1010	21.0	16.7	11	4.4	30	1050	15.5	13.1	11	2.9	30	1017	14.6	9.2	25	4.3	30	974	12.2	4.1	28	4.0	30	1034	17.8	11.4	23	3.7	
940	30	1508	18.1	14.4	10	3.5	30	1539	12.4	10.7	21	2.4	30	1448	10.5	6.8	25	5.8	30	1481	8.5	1.5	29	5.0	30	1521	15.1	6.0	4.4	2	
920	30	2026	15.5	11.8	10	3.0	30	2046	10.7	8.4	3	3.7	30	2004	8.5	3.3	25	5.7	30	1950	5.6	-1.7	30	5.8	30	2033	12.4	1.0	2.6	4.2	
900	30	2572	12.4	6.5	10	4.0	30	2584	9.4	-5.5	39	4.2	30	2535	5.3	-2.2	25	6.0	30	2475	2.5	-6.9	30	6.2	30	2572	9.8	-4.3	28	4.3	
750	30	3150	9.9	1.9	10	4.2	30	3153	7.5	-10.4	39	3.4	30	3096	2.3	-7.5	26	6.1	30	3029	-8.8	-11.1	30	7.2	30	3141	6.3	-7.8	30	4.3	
650	30	3763	6.6	-2.9	10	4.1	30	3760	4.7	-14.8	08	1.0	30	3692	-9.7	-11.4	26	7.0	30	3618	-3.9	-14.3	31	7.9	30	3745	2.8	-10.2	31	5.5	
630	30	4416	2.7	-6.7	10	4.3	30	4408	1.0	-16.6	11	4.3	30	4327	-4.3	-16.1	26	8.3	30	4246	-7.6	-18.2	30	9.2	30	4388	-1.2	-15.4	30	6.4	
610	30	5115	-1.3	-11.3	39	4.0	30	5101	-3.8	-22.5	22	1.7	30	5020	-7.0	-20.7	26	9.3	30	4918	-10.2	-23.6	30	10.2	30	5021	1.7	-20.1	30	8.1	
590	30	5869	-5.5	-17.4	49	5.1	30	5844	-2.7	-26.1	17	4.6	30	5740	-13.4	-26.0	20	10.7	30	5618	-29.1	-31.7	30	11.7	30	5816	-10.0	-26.6	30	8.1	
570	30	6689	-10.3	-21.7	59	5.1	30	6652	-14.8	-29.9	23	4.6	30	6534	-18.5	-31.0	25	12.6	30	6424	-22.3	-33.6	30	11.5	29	6618	-15.8	-31.0	30	7.9	
450	30	7587	-15.8	-28.4	48	4.3	30	7533	-21.4	-35.4	24	4.8	30	7402	-24.7	-37.2	25	13.4	30	7278	-28.4	-40.0	30	12.9	29	7496	-21.8	-36.5	30	10.4	
300	30	8584	-22.7	-35.1	08	4.7	30	8506	-28.9	-41.4	25	7.9	30	8304	-31.5	-42.3	25	15.2	30	8225	-35.4	-43.7	30	13.8	29	8468	-28.9	-42.3	30	11.5	
200	30	9693	-31.3	-43.3	10	5.0	30	9587	-37.3	-46.6	25	10.9	30	9434	-39.3	-47.4	25	18.1	30	9277	-43.4	-48.1	29	16.1	29	9550	-36.8	-49.1	30	13.4	
150	30	10957	-41.6			5.3	30	10921	-46.8		26	15.8	30	10681	-47.1		25	20.9	29	10481	-50.5		29	18.2	29	10789	-43.8		29	15.4	
100	30	12405	-45.7			5.6	30	12368	-52.4		27	18.3	30	12168	-53.8		25	19.7	29	11968	-55.4		29	20.6	29	12267	-45.7		29	16.8	
750	30	13273	-61.0			4.1	30	131098	-60.7		27	18.3	30	12968	-56.4		26	17.0	29	12788	-52.7		30	15.0	29	13085	-59.4		29	16.8	
150	30	14213	-68.8			07	4.3	30	14037	-67.2		27	15.4	30	13961	-58.4		26	14.2	29	13783	-52.8		29	11.7	29	14042	-62.7		29	16.5
125	30	15285	-76.0			07	6.1	29	15128	-69.9		28	11.1	30	15088	-59.8		26	10.8	28	14993	-53.3		30	8.8	29	15160	-65.0		29	12.6
100	30	16559	-79.6			08	9.7	29	16450	-71.6		25	2.7	30	16479	-60.1		26	6.2	28	16394	-54.6		30	5.5	29	16515	-66.3		31	6.6
60	25	17841	-73.9			08	10.6	28	17774	-69.3		09	4.2	30	17873	-59.6		28	2.1	28	17822	-54.6		32	3.1	29	17871	-64.3		01	3.1
50	24	18629	-56.7			09	9.9	26	18575	-67.5		09	9.2	29	18712	-57.1		27	1.8	28	18678	-54.1		30	1.9	28	18690	-61.8		07	7.7
40	24	19555	-66.6			10	11.0	27	19515	-65.1		09	4.9	29	19686	-56.7		30	3.4	28	19669	-53.2		30	1.9	28	19644	-60.8		07	5.8
50	24	20657	-63.0			08	13.9	27	20637	-61.1		09	11.5	27	20847	-54.7		30	5.5	28	20847	-52.2		07	3.0	28	20788	-57.7		09	7.8
4	23	22052	-59.5			09	18.9	25	22030	-57.7		09	15.4	24	22280	-52.8		09	7.1	27	22291	-51.0		08	4.3	27	22211	-54.4		09	8.7
3	23	23875	-54.6			09	24.2	24	23861	-53.8		09	17.9	21	24155	-50.3		09	8.2	26	24171	-46.8		08	6.4	27	24068	-51.0		09	10.1
2	23	25049	-51.8			09	26.8	22	25034	-51.6		09	19.1	18	25352	-48.2		09	9.2	25	25372	-46.9		07	7.0	27	25260	-49.1		09	10.3
1	23	26059	-48.0			09	29.0	22	26492	-49.0		09	20.2	15	26825	-46.1		09	10.7	24	26804	-44.2		07	8.2	28	26732	-46.9		10	10.1
15	14	28426	-44.8			09	31.5	17	28408	-44.8		09	19.4	11	28767	-41.7		09	12.8	24	28799	-41.1		07	8.6	23	28666	-41.6		08	11.6
10	14	31151	-42.2			09	31	31119	-42.4											18	31178	-35.6		08	15	31403	-37.3		08	12.0	

JOHN F. KENNEDY INT. AP NY 1014 MB										JOHNSTON IS., PACIFIC AREA 1014 MB										KEY WEST, FLA. 1014 MB										KING SALMON, ALASKA 1009 MB										KOROR, CAROLINE IS. 1006 MB									
SURFACE	30	5	17.9	13.3	02	.3	30	3	26.2	21.6	09	7.0	30	3	26.9	22.9	17	3.1	30	15	6.3	3.6	18	2.5	30	27.6	24.4	26	.8																				
1000	29	131	17.5	12.7	01	1.0	30	124	26.7	21.1	09	7.5	30	127	26.1	22.9	17	3.4	25	11.2	6.2	4.2	20	2.5	30	82	26.5	23.8	26	.9																			
1500	30	565	16.5	10.8	02	.6	30	572	20.7	18.7	09	8.5	30	579	22.5	19.4	17	4.6	30	511	6.9	.4	23	.9	30	535	23.6	21.3	25	1.6																			
900	30	1.024	14.1	7.4	25	1.1	30	1.039	17.9	14.1	.09	9.0	30	1.049	19.7	15.2	17	4.7	30	955	5.7	-3.6	36	1.9	30	1.007	20.9	17.5	25	1.4																			
850	30	1.505	11.7	.4	24	1.6	30	1.527	14.8	10.6	09	8.4	30	1.539	16.5	11.7	17	4.3	30	1.420	3.0	-3.4	07	2.3	30	1.501	17.9	14.2	25	1.2																			
800	30	2.010	8.7	1.3	23	3.2	30	2.039	11.1	3.0	09	6.6	30	2.054	13.8	6.8	18	4.0	30	1.909	-1.2	-6.2	04	1.8	30	2.019	15.3	11.1	21	.6																			
750	30	2.562	5.9	.9	7	5.3	30	2.580	3.3	.4	09	5.2	30	2.596	10.4	2.8	18	3.5	30	2.422	-2.3	-10.5	05	2.3	30	2.505	12.5	7.7	18	.2																			
700	30	3.104	3.2	.8	1	7.7	30	3.153	6.3	-10.5	10	3.3	30	3.168	7.3	-5	19	3.1	30	2.965	-6.6	-14.2	04	3.0	30	3.141	9.2	4.1	14	.6																			
650	30	3.702	.2	-11.9	24	9.4	30	3.761	4.6	-12.7	10	1.8	30	3.775	3.9	-5.6	21	2.6	30	3.541	-9.8	-17.8	04	3.5	30	3.753	5.9	1.3	15	1.5																			
600	30	4.340	-2.9	-16.3	24	10.6	30	4.408	.6	-15.3	11	.9	30	4.421	.2	-11.0	22	2.3	30	4.154	-13.5	-22.4	05	3.7	30	4.405	2.1	-2.7	14	.8																			
550	30	5.024	-6.9	-21.4	23	12.0	30	5.101	-3.9	-19.8	10	.3	30	5.114	-4.1	-13.7	24	2.7	30	4.911	-17.6	-27.4	06	4.0	30	5.104	-1.7	-6.1	11	2.5																			
500	30	5.711	-11.7	-26.3	24	14.5	30	5.847	-8.5	-23.3	28	1.2	30	5.859	-8.6	-19.1	26	3.2	30	5.518	-22.2	-33.7	08	4.5	30	5.858	-5.8	-11.4	10	3.1																			
450	30	6.501	-16.8	-31.5	24	16.1	30	6.628	-13.3	-27.8	28	1.3	30	6.669	-13.5	-24.9	29	3.8	30	6.242	-22.3	-39.9	06	4.8	30	6.507	-10.3	-18.8	10	4.8																			
400	30	7.345	-22.9	-36.5	24	17.0	30	7.541	-19.5	-35.5	28	4.7	30	7.555	-19.5	-28.3	29	4.7	30	7.119	-34.2	-46.4	06	4.9	30	7.575	-16.0	-24.5	09	4.9																			
350	29	8.406	-29.8	-41.8	24	20.3	30	8.522	-26.6	-40.6	28	7.3	30	8.537	-26.3	-35.4	29	5.4	30	8.043	-41.3	-44.7	06	4.8	30	8.571	-22.6	-32.1	09	5.4																			
300	29	9.463	-37.8	-48.2	24	22.2	30	9.513	-35.1	-48.1	27	11.9	30	9.630	-34.8	-44.8	29	6.3	30	9.070	-43.6		06	5.2	30	9.681	-30.9	-41.4	08	5.8																			
250	29	10.716	-47.0		24	25.3	29	10.859	-45.1		27	17.0	30	10.876	-44.8		30	8.9	30	10.252	-43.9		02	3.9	30	10.948	-41.2	-52.4	08	6.8																			
200	29	12.103	-56.3		24	26.5	29	12.231	-56.7		27	20.3	30	12.231	-56.3		30	11.4	30	11.691	-51.1		35	2.8	30	12.424	-53.5		08	8.6																			
150	29	13.301	-59.0		24	25.9	28	13.315	-62.9		27	20.5	29	13.169	-62.0		30	12.2	30	12.563	-49.7		31	2.5	30	13.269	-60.5		08	10.1																			
100	29	13.948	-60.5		24	26.0	28	14.080	-68.8		27	18.2	29	14.110	-67.2		31	11.5	30	13.573	-49.4		28	2.1	30	14.212	-68.2		07	10.3																			
50	29	15.103	-60.6		25	13.6	28	15.160	-72.6		27	13.4	29	15.199	-70.7		31	8.6	30	14.769	-49.3		28	2.0	30	15.268	-78.7		07	9.3																			
10	27	16.495	-60.6		24	7.5	28	16.468	-73.6		28	3.4	29	16.515	-71.8		35	4.1	30	16.234	-49.7		26	1.0	30	16.568	-74.7		07	7.7																			
FACE	27	17.892	-58.4				27	17.781	-70.2		08	4.5	29	17.841	-68.7		08	5.1	27	17.695	-48.3		21	5	27	17.850	-74.7		08	4.7																			
40	27	18.733	-57.6		11	1.7	27	18.671	-67.6		09	6.9	27	18.665	-66.2		08	6.2	27	18.665	-66.2		17	8	27	18.665	-70.0		09	4.8																			
20	27	19.713	-55.9		10	4.3	25	19.512	-64.1		09	12.1	29	19.588	-63.2		08	10.2	26	19.591	-48.2		14	.9	29	19.562	-67.1		09	6.3																			
50	24	20.880	-53.9		09	5.2	24	20.638	-61.8		09	14.5	29	20.722	-58.8		09	12.3	26	20.792	-48.3		12	1.8	29	20.671	-64.0		09	9.9																			
40	24	22.319	-52.1		09	7.7	24	22.034	-57.2		09	17.2	29	22.133	-55.9		10	12.9	25	22.263	-48.1		10	3.2	29	22.050	-60.6		09	18.2																			
30	23	24.196	-49.3		09	9.7	23	23.869	-53.6		09	20.8	29	23.978	-52.3		09	14.0	25	24.164	-47.1		09	4.7	28	23.863	-55.2		09	28.0																			
20	23	25.937	-47.7		11	11.0	21	25.910	-51.3		09	22.2	27	25.955	-50.4		09	14.3	25	26.164	-46.2		09	6.3	27	25.937	-52.2		09	34.9																			
10	23	26.875	-45.0		09	9.9	20	26.875	-45.0		09	24.9	29	26.931	-47.5		09	14.3	25	26.931	-47.5		09	6.8	27	26.942	-49.2		09	34.9																			
5	16	28.811	-41.6				20	28.816	-45.3		09	27.0	24	28.543	-45.1		08	14.9	20	28.796	-41.5		08	7.9	21	28.398	-45.2		09	37.2																			
1	9	31.612	-37.2				19	31.148	-42.2		08	19.1	31	31.264	-41.3					16	31.547	-37.6		13	13	31.131	-41.0		09	41.0																			

Average monthly values

[illegible]

MCGRATH, ALASKA 998 MB										MAJURO, MARSHALL IS. 1010 MB										MEDFORD, OREG. 969 MB										MERIDA, MEXICO 1011 MB										MIAMI, FL. 1015 MB									
SURFACE	30	103	8.9	4.5	26	1.3	30	2.8	5	24.3	08	3.7	30	401	12.6	7.8	32	4	30	11	23.8	22.8	10	1.0	3	4	25.2	22.6	19	.7																			
9000	11	135	9.5	2.0	28	2.0	30	93	26.9	23.1	09	4.8							30	102	23.6	22.2	17	4.1	30	.83	25.6	22.1	18	1.6																			
1000	30	510	10.0	1.5	30	2.8	30	546	23.9	21.1	09	6.7	30	567	14.4	7.3	30	.9	30	552	22.5	19.9	13	9.2	30	584	22.6	19.3	18	4.4																			
9000	30	958	7.5	-9.29		2.4	30	19018	20.6	17.4	.10	6.9	30	10274	13.4	5.3	30	1.1	30	1022	20.7	14.6	13	8.5	30	1.84	19.6	15.1	18	4.3																			
6000	30	1425	3.9	-2.7	26	2.3	30	1.511	15.1	13.4	.10	6.9	30	10513	3.5	5.3	30	.5	30	1.5	18.5	8.3	13	7.5	30	1.6	16.4	11.6	19	3.5																			
5000	30	1915	2.5	-5.0	3	2.4	30	2029	15.2	11.0	.10	6.7	30	2009	10.6	-2.6	33	.6	30	2003	-10.5	-15.7	13	5.8	30	20059	6.9	9	3.2																				
7500	30	2431	-2.6	-9.0	25	2.4	30	2575	12.6	8.0	.10	6.9	30	2545	8.5	-5.29		1.6	30	2578	12.1	2.6	13	5.9	30	26000	10.8	1.5	19	2.9																			
7000	30	2975	-6.1	-13.0	24	2.3	30	3152	9.4	4.5	.10	6.5	30	3113	5.6	-10.8	28	2.8	30	3153	8.6	-.15	4.9	4.3	30	3172	7.5	-2.3	20	7.8																			
6500	30	3552	-9.3	-15.6	27	2.3	29	3764	6.2	1.8	.10	5.7	30	3715	2.3	-15.2	28	4.0	30	3763	5.3	-5.5	1.1	4.5	30	3779	3.8	-5.9	22	2.8																			
6000	30	4167	-13.1	-20.3	28	2.9	29	4417	2.5	-2.0	.10	5.0	30	4357	-1.7	-18.7	26	5.3	30	4413	1.9	-9.1	1.8	3.9	30	4425	-1	-10.4	3	2.8																			
5500	30	4824	-17.2	-24.1	29	8.3	29	5115	-1.3	-6.4	.09	4.2	30	5091	-4.6	-21.6	28	7.1	30	5111	-1.7	-12.8	9	1.3	30	5117	-4.1	-15.5	24	3.1																			
5000	30	5532	-21.9	-29.6	30	9.0	29	5775	-1.5	-13.5	.10	3.0	30	5783	-11.0	-25.3	28	9.2	29	5885	-10.5	-16.7	11	3.3	30	5894	-10.6	-20.3	4	6.8																			
4500	30	6297	-27.5	-34.1	31	4.0	28	6692	-10.0	-19.3	.09	2.3	30	6584	-16.8	-30.7	25	10.6	29	6682	-11.2	-22.3	3	1.0	30	6673	-13.5	-26.1	27	4.7																			
4000	30	7136	-33.8	-41.3	32	4.6	28	7591	-15.4	-25.3	.08	.7	30	7457	-23.5	-36.9	25	12.1	29	7576	-17.2	-2.4	30	2.5	30	7559	-19.6	-30.1	78	5.0																			
3500	30	8060	-41.1	-46.8	32	5.3	28	8588	-22.4	-32.8	.21	5	28	8421	-31.1	-63.7	24	13.1	29	8567	-24.3	-34.3	29	4.4	29	8541	-26.3	-35.7	28	4.8																			
3000	30	9087	-49.2			5.7	28	9700	-30.7	-61.4	.22	1.6	28	9491	-39.7	-50.0	24	13.8	29	9668	-32.7	-43.3	30	7.0		9634	-34.8	-44.8	28	5.8																			
2500	30	10266	-56.8			32	5.5	28	10767	-31.2	-50.1	24	15.1	28	10712	-49.2		25	15.1	29	10926	-46.2		30	9.0		10880	-45.1		7.7																			
2000	30	11707	-62.9			32	2.5	27	12462	-25.3		25	5.4	28	12106	-37.0		25	5.4	28	12106	-37.0		25	3.3	9	10	10980	-45.1		7.7																		
1750	30	12573	-69.6			31	2.8	28	13290	-60.5		25	5.4	28	12990	-58.5		25	18.2	29	13238	-60.8		30	10.2	8	13171	-61.8		30	10.2																		
1500	30	13585	-68.8			30	1.5	25	14234	-68.4		28	7.3	28	13957	-59.6		25	18.3	29	14180	-67.8		30	10.3	28	14113	-66.9		31	9.5																		
1250	30	14784	-68.6			29	1.0	25	15310	-74.8		27	9.1	27	15095	-61.5		24	14.7	29	15262	-73.4		31	7.9	29	15205	-70.2		31	6.7																		
1000	30	16255	-67.7			23	1.25	16	16589	-78.5		27	7.9	27	16475	-62.3		24	9.0	29	16559	-75.0		33	4.9	29	16526	-70.6		36	3.0																		
800	30	17730	-67.2			19	1.25	17	18784	-73.6		29	3.1	27	17856	-60.7		28	3.1	28	17870	-70.0		02	4.5	27	17858	-67.0		37	4.6																		
600	30	18616	-66.9			17	1.25	17	18665	-73.6		07	2.7	27	18670	-58.9		9	2.7	28	18671	-66.2		02	4.9	27	18680	-66.7		36	08																		
400	30	19738	-66.1			11	1.5	25	19593	-61.6		09	5.6	26	19646	-57.5		12	2.2	28	19608	-66.2		07	6.8	29	19615	-62.0		09	9.2																		
50	29	20847	-66.3			10	2.0	24	20708	-62.0		10	10.4	26	20821	-55.7		10	4.0	28	20737	-59.6		09	9.7	29	20753	-55.9		09	11.8																		
40	26	22338	-64.1			08	2.7	24	22208	-59.0		09	18.4	26	22249	-53.8		09	5.9	27	22147	-56.1		09	12.6	27	22166	-58.2		10	13.2																		
30	21	24254	-65.4			05	5.2	22	23922	-52.0		09	27.6	24	24109	-51.1		09	8.0	27	23947	-51.6		09	12.9	28	24020	-51.2		08	12.9																		
25	18	25457	-64.8			06	6.4	21	25096	-54.2		09	30.3	24	25300	-49.3		09	8.4	26	25186	-49.5		09	13.3	26	25209	-49.7		09	13.0																		
20	15	26964	-63.0			09	7.0	19	26450	-52.0		09	34.3	24	26525	-46.5		09	13.3	26	26718	-46.3		09	13.3	26	26733	-46.3		09	13.1																		
15	7	28662	-60.9			13	28	28645	-43.7		09	38.3	4	28707	-42.6		09	11.1	21	28577	-43.3		09	13.7	18	28597	-43.7		09	14.2																			
10						7	31	25128	-35.9				17	31477	-37.9		09	11.4	8	31326	-41.2				8	31333	-40.5																						

MIDLAND, TEXAS 914 MB										MONTEREY, MEXICO 961 MB										MUNNETT, MO. 993 MB										MONTGOMERY, ALA. 1008 MB										MASHLEY, TENN. 994 MB									
SURFACE	30	874	20.3	10.9	14	23	25	23.0	21.0	19.2	14	.6	30	438	15.8	13.7	16	2.0	3	57	18.7	16.9	33	.2	30	540	16.8	15.2	17	.7																			
1000																																																	
990																																																	
980	30	19095	20.5	10.9	16	4.7	25	559	21.1	18.9	13	1.7	30	554	17.8	13.2	19	2.6	30	574	20.3	13.0	21	.1	30	565	18.1	11.9	21	3.0																			
850	30	14949	20.2	6.7	19	6.2	25	10274	19.1	10.8	14	6.1	30	155.3	15.0	.4	27	5.2	30	15252	14.7	6.3	25	3	30	15111	15.7	11.0	27	3.0																			
800	30	20201	18.7	1.0	21	1.8	25	2334	16.9	.8	14	5.2	30	2015	12.5	.2	28	5.4	30	2037	11.6	2.2	25	3.5	30	2017	6.6	2.8	25	4.9																			
750	30	25272	15.6	-3.0	34	.4	25	2583	14.8	-1.0	13	3.9	30	2594	9.7	-3.7	29	6.2	30	2574	8.5	-3.3	.4	4.2	30	2591	6.9	-2.5	26	6.7																			
700	30	31252	11.3	-6.1	34	2.1	25	3162	10.8	-5.4	10	2.3	30	3123	6.2	-6.4	30	7.0	30	3151	5.3	-8.7	26	5.1	30	3116	4.0	-7.1	26	8.0																			
650	30	37766	6.4	-8.5	35	3.3	25	3776	6.9	-9.1	07	2.4	30	3747	2.3	-9.5	30	7.5	30	3743	1.9	-11.4	27	5.6	30	3715	.8	-12.8	27	8.4																			
600	30	44416	1.4	-12.3	36	3.8	25	4441	1.4	-14.0	03	3.3	30	4369	-14.9	30	9.3	30	4417	-17.1	27	6.7	10	6.7	30	4353	-.3	-16.0	28	8.6																			
550	30	51110	-4.0	-16.8	39	4.2	25	5125	-2.3	-19.3	34	4.4	30	5085	-6.3	-20.7	31	10.5	30	5070	-6.6	-20.7	8	5.6	30	5037	-7.5	-21.1	8	9.4																			
500	30	5885	-9.0	-22.8	34	6.7	25	5874	-7.2	-25.7	07	4.6	30	5793	-11.5	-25.3	31	11.7	30	5809	-11.2	-25.2	28	8.0	30	5772	-12.4	-25.5	29	8.4																			
450	28	6865	-14.2	-28.8	33	6.4	25	6849	-11.9	-30.0	02	4.2	30	6592	-16.9	-30.9	31	11.8	30	6610	-16.3	-31.0	27	8.7	30	6569	-17.7	-30.0	8	11.3																			
400	28	7547	-20.0	-35.4	32	7.4	25	7579	-18.4	-35.4	34	4.6	30	7468	-22.6	-37.3	31	12.5	30	7481	-22.5	-35.7	28	9.1	30	7440	-23.9	-36.9	9	11.7																			
350	28	8525	-27.5	-42.2	31	9.0	25	8565	-25.5	-40.9	33	4.6	30	8436	-30.0	-42.8	31	14.1	30	8455	-30.2	-42.8	27	13.3	30	8440	-31.1	-42.2	9	13.5																			
300	28	9412	-35.8	-48.9	31	11.7	25	9461	-33.8	-47.3	31	6.7	30	9318	-38.2	-49.1	30	16.1	30	9530	-38.6	-50.0	26	12.0	30	9476	-37.2	-47.9	28	14.0																			
250	27	10855	-45.2		31	13.5	25	10913	-43.2		29	9.6	30	10763	-47.5		31	17.3	29	10775	-45.7		27	14.6	30	10704	-47.3		28	16.3																			
200	27	12314	-54.4		30	13.3	27	12382	-53.6		29	10.8	29	12190	-55.7		30	19.3	29	12229	-55.7		27	13.6	30	12153	-55.3		28	16.9																			
175	27	13110	-59.4		30	14.0	27	13233	-59.5		29	10.0	29	13035	-58.8		31	18.5	29	13071	-59.8		28	14.5	30	12998	-58.2		28	18.7																			
150	27	14113	-64.3		30	11.9	23	14183	-63.5		30	9.0	1	14000	-60.0		31	16.8	29	14026	-63.2		18	13.6	30	13965	-59.8		19	14.6																			
125	27	15216	-68.8		30	9.6	23	15270	-70.8		31	6.2	29	15130	-62.9		30	14.6	29	15142	-65.4		14	10.4	30	15100	-62.4		16	10.9																			
100	27	16541	-70.9		33	5.7	13	16588	-73.6		35	4.4	29	16502	-65.4		33	8.1	29	16490	-65.8		30	5.0	30	16479	-62.2		8	6.0																			
80	27	17876	-67.3		04	3.5	23	17902	-69.7		5	5.8	29	17875	-62.4		33	3.8	29	17854	-64.4		35	1.2	30	17856	-62.3		17	7.4																			
70	27	18686	-64.4		07	5.2	23	18706	-65.8		07	7.4	29	18703	-60.1		03	4.2	29	18675	-62.4		4	2.5		18683	-60.9		4	2.5																			
60	27	19636	-61.5		08	7.2	23	19648	-63.0		08	8.2	28	19672	-58.8		07	4.9	1	19632	-60.3		38	5.0	29	19647	-59.1		7	4.6																			
50	27	20777	-58.2		09	8.4	23	20782	-59.0		09	9.4	28	20823	-56.4		08	5.4	27	20774	-57.8		38	6.2		20786	-56.3		6	6.4																			
40	27	22135	-54.6		09	11.1	23	22140	-54.1		09	11.1	28	22152	-54.1		09	7.2	27	22122	-56.4		38	8.7	29	22122	-56.4		7	9.4																			
30	27	23251	-51.2		09	10.1	23	23038	-52.0		09	11.3	29	24107	-50.7		09	9.0	21	24091	-51.3		09	9.4	27	24081	-51.2		9	9.4																			
25	27	25241	-49.4		08	10.8	27	25226	-49.4		08	11.9	27	25301	-48.9		09	9.7	21	25235	-49.5		09	10.1	27	25271	-44.4		9	9.6																			
20	27	26771	-46.6		08	10.3	21	26697	-47.2		08	11.1	1	26777	-45.9		09	10.5	18		-47.4		10	9.9	8	26750	-45.9		9	9.8																			
15	28	28628	-43.7		09	10.2	27	28615	-44.3		08	11.8	24	28701	-43.3		09	12.2	16		-44.3		13	6.7	15	28704	-43.5		9	11.6																			
10							19	31350	-41.2		08	15.1	8	31502	-37.4						-37.8																												

Average monthly values

LINE 1974

RAPID CITY, S. DAK.										ST. CLOUD, MINN.										ST. PAUL IS., ALASKA										SALEM, ILL.										SALEM, ORE.									
993 MB										975 MB										1014 MB										993 MB										1010 MB									
800	30	906	12.5	6.2	32	1.6	30	316	11.9	9.4	30	23	29	16	2.8	2.0	33	2.6	30	174	15.8	13.8	19	1.0	30	61	10.5	6.9	29	-7																			
1000												27	132	2.9	1.9	33	2.3							30	139	12.3	8.4	32	-7																				
950								30	539	15.4	7.3	24	2.1	29	538	2.5	-5	34	2.8	30	551	17.4	10.5	25	3.9	30	569	11.3	6.8	36	2.3																		
900	20	1.019	14.0	5.5	30	1.1	30	937	13.7	4.1	26	3.1	29	975	1.9	-4	01	2.1	30	1.012	15.1	8.5	27	5.2	30	1.021	10.9	3.9	34	2.5																			
850	30	1.480	16.0	2.6	24	1.5	30	1.476	10.5	1.5	30	3.0	29	1.436		-7	-7	2.3	1.1	30	1.494	11.9	5.1	28	5.4	30	1.497	10.4	-3.0	31	2.9																		
800	30	1.903	13.2	-5	2	2.5	30	1.978	7.1	-1.2	32	1.5	29	1.921	-1.9	-10.6	30	-7	30	1.999	9.1	-2	27	7.1	30	2.001	9.0	-6.8	29	3.5																			
750	30	2.535	13.6	-2.5	30	4.0	30	2.592	4.0	-0.3	32	2.5	29	2.543	-1.3	-2.8	30	2.532	6.5	-5	27	7.4	30	2.523	6.5	-1.1	30	2.7																					
700	30	3.104	5.9	-5.3	30	6.5	30	3.064	1.1	-1.1	33	6.7	29	2.975	-6.6	-10.8	08	-4	30	3.095	3.2	-9.6	27	7.7	30	3.096	3.8	-12.6	27	5.8																			
650	30	3.706	1.6	-8.4	30	8.7	30	3.657	-2.1	-15.0	31	8.0	29	3.551	-9.7	-19.8	09	1.0	30	3.692	0	-13.3	28	8.7	30	3.695	-4	-14.4	24	7.4																			
600	30	4.346	-2.6	-13.7	30	10.7	30	4.289	-5.8	-19.0	30	9.8	29	4.165	-13.3	-23.3	10	1.0	30	4.329	-3.9	-17.5	29	9.0	30	4.332	-3.4	-18.3	26	9.5																			
550	30	5.029	-7.8	-19.5	35	12.1	30	4.965	-10.3	-22.7	30	11.0	29	4.822	-17.5	-26.6	12	-8	30	5.010	-8.4	-22.2	29	9.8	30	5.015	-7.8	-22.1	26	10.8																			
500	30	5.763	-13.2	-25	7	13.5	30	5.692	-14.2	-27.3	31	11.7	29	5.599	-22.4	-32.1	13	2.0	30	5.743	-13.2	-27.7	29	10.8	30	5.749	-12.8	-25.3	26	12.6																			
450	30	6.557	-18.8	-31.2	30	13.8	30	6.481	-20	-33.1	31	11.9	27	6.399	-25	-38.6	11	2.5	30	6.538	-24	-30.5	29	10.9	30	6.545	-18.3	-30.1	24	14.7																			
400	30	7.424	-25.1	-37.6	30	14.8	29	7.344	-26.8	-39.4	31	14.2	27	7.136	-33.7	-43.4	11	2.3	30	7.407	-24.4	-37.5	30	12.6	30	7.413	-24.6	-36.1	25	16.0																			
350	30	8.383	-32.1	-43.8	30	16.5	29	8.297	-33.7	-46.7	30	15.8	27	8.062	-40.7	-44.7	13	2.6	30	8.370	-31.4	-44.1	30	13.7	30	8.375	-31.7	-42.4	25	18.8																			
300	30	9.449	-40.7	-50.4	29	17.9	29	9.356	-41.9	-49.4	30	17.3	27	9.091	-48.2		11	2.8	30	9.440	-39.6	-48.4	30	16.0	30	9.443	-40.3	-49.3	25	18.4																			
250	30	10.666	-49.6		29	19.2	29	10.570	-49.6		30	19.0	27	10.276	-53.2		08	2.0	30	10.666	-47.9		30	16.3	30	10.661	-50.0		24	19.0																			
200	30	12.100	-55.3		29	21.3	29	12.000	-55.3		30	21.0	27	11.700	-59.3		30	1.3	30	12.113	-55.1		29	16.3	30	12.105	-55.3		24	19.6																			
175	30	12.954	-56.8		29	21.7	28	12.871	-54.9		29	17.5	27	12.595	-49.5		31	2.5	29	12.962	-57.4		29	16.8	30	12.933	-58.0		24	19.8																			
150	30	13.930	-57.5		30	20.2	29	13.855	-55.3		30	14.7	27	13.606	-49.3		30	1.5	29	13.934	-58.4		29	15.2	30	13.905	-57.9		25	19.7																			
125	30	15.076	-59.5		30	14.9	28	15.016	-56.4		30	11.9	27	14.800	-49.7		28	1.3	29	15.078	-59.7		29	10.6	30	15.051	-59.2		24	14.3																			
100	30	16.466	-61.5		30	9.2	28	16.630	-55.8		30	6.6	27	16.261	-49.5		27	7.2	29	16.470	-59.9		30	6.5	30	16.447	-59.6		24	8.7																			
50	30	17.858	-59.1		31	3.9	27	17.843	-56.7		32	3.5	27	17.726	-48.9		09	7.2	29	17.863	-59.9		32	2.7	28	17.848	-58.7		24	3.9																			
30	30	18.698	-58.0		35	2.5	28	18.692	-56.0		30	2.5	27	18.600	-48.9		30	1.5	29	18.691	-58.9		02	2.0	28	18.695	-58.9		24	1.9																			
20	29	19.672	-57.2		04	2.6	28	19.675	-55.3		05	2.5	24	19.611	-48.3		10	1.5	29	19.770	-57.6		27	1.7	29	19.670	-56.0		14	1.3																			
50	29	20.831	-55.1		04	3.9	28	20.843	-53.3		07	4.1	25	20.813	-47.9		09	2.6	28	20.826	-55.0		08	5.3	27	20.833	-54.5		11	3.1																			
40	28	22.203	-52.8		08	5.8	28	22.284	-52.2		08	5.3	25	22.286	-47.8		09	3.5	28	22.260	-52.7		09	6.5	25	22.266	-52.9		09	5.0																			
30	27	24.127	-51.0		08	7.0	27	24.154	-49.9		08	7.7	25	24.188	-46.9		09	4.9	26	24.128	-50.4		09	8.3	25	24.133	-50.4		09	7.4																			
20	26	25.318	-49.5		08	8.4	26	25.351	-48.0		09	8.8	23	25.391	-46.2		09	5.2	25	25.320	-48.3		09	8.8	23	25.337	-48.3		09	7.6																			
10	24	26.790	-46.2		28	8.8	24	26.844	-45.5		09	9.4	22	26.889	-43.5		09	6.4	26	26.790	-45.5		09	8.8	23	26.815	-45.5		09	8.9																			
15	19	28.705	-44.3		09	9.5	22	28.746	-42.0		09	5.8	22	28.820	-41.6		09	7.3	20	28.724	-42.3		09	10.6	17	28.731	-42.7		09	10.7																			
10	7	31.457	-41.1		10	31.505	-37.8		22	31.596	-37.3		09	9.5	10	31.481	-38.8																																

Average monthly values

37

Average monthly values

- 38

SOLAR RADIATION INTENSITIES

Tabulated in langley's per minute on a surface normal to the direction of the sun.

May 1964

Sun's zenith distance									
Date	A M				*	P M			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
ALBUQUERQUE, N. MEX.									
Air mass									
	1.19	1.35	2.31	1.67	*	1.67	2.31	1.35	1.19
1-----	.61	.72	.86	1.07	1.14	1.13	-----	-----	-----
2-----	(.78)	(.89)	-----	-----	1.10	-----	-----	-----	-----
3-----	.70	.81	.95	1.10	1.35	-----	-----	-----	-----
4-----	.78	.90	1.04	1.20	1.38	1.08	.94	-----	-----
5-----	.69	.79	.95	-----	-----	-----	-----	-----	-----
7-----	.80	.89	1.00	-----	-----	-----	(.65)	(.58)	(.50)
8-----	-----	-----	-----	-----	1.41	1.22	1.06	.92	.82
9-----	-----	-----	1.11	(1.27)	-----	-----	-----	-----	-----
10-----	.90	.96	1.07	1.23	1.42	1.17	1.04	.90	.87
11-----	.86	.91	1.07	1.22	-----	-----	-----	-----	-----
12-----	.67	.78	.87	1.06	1.41	1.12	.93	.77	.70
13-----	.75	.83	.98	1.12	1.37	-----	-----	-----	-----
14-----	-----	-----	-----	-----	1.37	-----	-----	-----	-----
15-----	.81	.87	1.01	1.16	1.36	-----	-----	-----	-----
16-----	.71	.83	.96	1.14	1.33	-----	-----	-----	-----
17-----	.71	.80	.93	1.08	1.34	-----	.75	-----	-----
18-----	.61	.73	.88	1.07	1.35	-----	-----	-----	-----
19-----	.66	.74	.85	1.03	1.28	-----	-----	-----	-----
20-----	.63	.70	.85	1.01	1.25	-----	-----	-----	-----
21-----	(.49)	(.59)	(.75)	(.89)	(1.17)	(.90)	(.75)	-----	(.50)
22-----	.61	.70	.91	1.07	-----	-----	-----	-----	-----
23-----	.58	.63	.78	.93	1.18	-----	-----	-----	-----
24-----	.64	.73	.87	1.04	1.26	.91	-----	-----	-----
25-----	.51	.61	.79	.96	1.24	-----	.80	-----	.88
26-----	.53	.61	.77	.95	1.25	-----	-----	-----	-----
27-----	.59	.66	.79	1.00	1.27	1.97	-----	-----	-----
28-----	.58	.66	.80	1.08	1.28	1.94	-----	-----	-----
29-----	-----	-----	-----	-----	1.26	-----	-----	-----	-----
30-----	-----	-----	.80	.90	-----	-----	-----	-----	-----
Aver- ages	.69	.77	.91	1.08	1.32	1.10	.93	.86	.74

DUNSMITH, ARIZ.									
	Air mass								
	1.50	1.65	2.74	1.83	*	1.83	2.74	1.65	1.50
1-----	.97	1.06	1.18	1.32	1.46	1.34	1.19	1.08	1.00
2-----	.87	.98	1.10	1.25	1.41	1.32	1.18	1.09	1.01
3-----	.94	1.04	1.15	1.28	1.46	1.30	1.15	1.05	.93
4-----	.79	.87	1.02	1.20	1.45	1.26	1.13	.98	.86
5-----	.67	.78	.93	1.11	1.40	-----	-----	-----	-----
6-----	.81	.92	1.06	1.22	1.43	1.22	1.03	.88	.80
7-----	.80	.90	1.07	1.24	1.38	1.01	.19	.29	.20
8-----	.82	.92	1.06	1.19	1.39	1.15	.98	.85	.72
9-----	.64	.67	.82	1.06	1.29	1.03	.80	.68	.56
10-----	.68	.70	.84	1.11	1.35	1.02	.84	.74	.65
11-----	.71	.80	1.00	1.14	1.37	1.17	.98	.81	.70
12-----	.72	.84	.96	1.13	1.34	1.07	.90	.76	.66
13-----	.61	.81	.97	1.12	1.36	1.10	.94	.78	.67
14-----	.71	.80	.93	1.07	1.34	1.02	-----	-----	-----
15-----	.70	.78	.91	.95	1.24	1.05	-----	-----	-----
16-----	.67	.76	.84	.84	1.28	1.01	-----	-----	-----
17-----	.61	.68	.80	1.01	1.25	-----	-----	-----	-----
18-----	.61	.63	.76	.95	1.24	.90	.72	.66	.49
19-----	.62	.63	.73	.93	1.24	-----	.68	.58	.45
20-----	.63	.68	.71	.90	1.24	.90	.70	.59	.45
21-----	-----	-----	-----	-----	1.26	.98	.78	.63	.54
22-----	.71	.73	.71	.91	1.23	.92	.74	.60	.48
23-----	.71	.70	.64	.86	1.23	-----	-----	-----	-----
24-----	.70	.71	.61	.89	1.09	.78	-----	-----	-----
25-----	.61	.71	-----	-----	1.06	.90	.72	.60	.56
26-----	-----	.63	.69	-----	1.15	.88	.70	.54	.48
27-----	.64	.60	.72	.90	1.19	.87	.69	.61	.44
28-----	.60	-----	.76	.93	1.18	.97	.78	.65	.40
29-----	.69	.60	.64	.83	1.09	.90	.72	.61	.51
30-----	.61	.60	.73	.93	1.15	.90	.73	.60	.52
Aver- ages	.62	.72	.80	1.04	1.28	1.04	.80	.72	.62

MADISON, WIS.									
	Air mass								
	1.09	1.21	2.81	1.88	*	1.88	2.81	1.21	1.09
1-----	-----	-----	S 1.90	S 1.15	-----	-----	-----	-----	-----
12-----	S 1.70	S 1.84	S 1.99	S 1.15	-----	-----	-----	-----	-----
13-----	-----	-----	-----	S 1.10	-----	-----	-----	-----	-----
15-----	S 1.61	S 1.79	S 1.92	S 1.14	-----	-----	-----	-----	-----
23-----	.84	.92	1.00	-----	-----	-----	-----	-----	-----
24-----	-----	-----	-----	S 1.15	-----	-----	-----	-----	-----
25-----	S 1.80	S 1.89	S 1.90	S 1.15	-----	-----	-----	-----	-----
26-----	S 1.69	S 1.90	S 1.91	S 1.10	S 1.30	-----	-----	-----	-----
27-----	M 1.05	M 1.26	M 1.36	M 1.40	-----	-----	-----	-----	-----
28-----	-----	H 1.51	H 1.64	H 1.84	-----	-----	-----	-----	-----
30-----	S 1.80	S 1.90	S 1.01	1.15	1.32	1.11	.90	.82	.77
Aver- ages	.73	.81	.93	1.13	1.31	1.11	.90	.82	.74

MAUNA LOA OBSERVATORY, HAWAII									
	Air mass								
	3.16	2.69	2.61	1.74	*	1.74	2.61	2.69	3.16
17-----	1.20	1.27	1.34	1.43	-----	-----	-----	-----	-----
18-----	1.10	1.23	1.30	1.40	-----	-----	-----	-----	-----
19-----	1.19	1.26	1.34	1.44	1.54	1.38	-----	-----	-----
20-----	1.19	1.27	1.35	1.46	1.57	1.41	1.33	1.24	1.16
21-----	1.22	1.30	1.37	1.47	1.59	1.45	1.35	1.26	1.19
22-----	1.19	1.27	1.35	1.45	1.59	1.43	1.32	1.22	1.15
23-----	1.19	1.26	1.34	1.44	1.57	1.42	1.33	1.25	1.18
24-----	1.20	1.27	1.35	1.45	1.59	-----	-----	1.12	1.04
25-----	1.19	1.26	1.37	1.44	-----	1.36	1.24	1.18	1.04
26-----	1.18	1.26	-----	-----	-----	-----	-----	-----	-----
28-----	1.18	1.25	1.33	1.45	-----	-----	-----	-----	-----
29-----	1.16	1.23	1.31	1.41	-----	-----	-----	-----	-----
Aver- ages	1.19	1.26	1.34	1.41	1.57	1.41	1.34	1.24	1.15

OMAHA, NEBR.									
	Air mass								
	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
1-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
5-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
6-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
7-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
8-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
9-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
10-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
11-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
12-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
13-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
14-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
15-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
16-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
17-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
18-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
19-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
20-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
21-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
22-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
23-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
24-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
25-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
26-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
27-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
28-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
29-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
30-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

NET RADIATION

Net radiation in langbeys per day (8 a.m. to 8 a.m.) at Palmer, Alaska.

JUNE 1974

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langley's	189	206	108	164	198	131	268	233	270	241	226	195	208	236	165	233	192	64	264	283	263	267	277	188	272	241	248	260	268	265	213	

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average (< 3000 Å) at Amos, Iowa

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langbeys																																

NO DATA RECEIVED

TOTAL OZONE DATA

These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code . S D Q P defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units: Milli-atmo-cms.

Day of month

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean O ₃

NO DATA RECEIVED

SOLAR RADIATION INTENSITIES LATE REPORTS

Tabulated in langleys per minute on a surface normal to the direction of the sun.

Sun's zenith distance										Sun's zenith distance									
Date	A.M.				*	P.M.				Date	A.M.				*	P.M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°		78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
MADISON, WIS.																			
Air mass										Air mass									
1974	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69										
February																			
7-----	S .61	S .66	S .78	S 1.11	S 1.21	S 1.30	S 1.71	S 2.08	S .96										
8-----	M .47	M .51	M .59	M 1.16	M 1.12	---	---	---	---										
9-----	M .83	M .94	S 1.05	S 1.27	S 1.30	S 1.30	---	---	---										
11-----	---	---	---	---	S 1.18	M 1.15	M 1.03	M .84	S .79										
12-----	M .62	M .73	M .91	---	---	---	---	---	---										
19-----	---	---	---	---	---	---	---	---	---										
2-----	---	---	---	---	---	S 1.34	S 1.07	S 1.16	S 1.00										
23-----	S .91	S 1.03	S 1.17	S 1.32	---	---	---	---	---										
24-----	S .86	S .97	S 1.11	S 1.27	S 1.31	---	---	---	---										
25-----	---	S 1.08	---	S 1.34	S 1.43	S 1.79	S 1.21	S 1.09	S .98										
Averages	.72	.85	.94	1.25	1.26	1.34	1.23	1.03	.95										

STORM SUMMARY -CORRECTIONS

DATE	TABLE	STATE	CORRECTION
SEPTEMBER 1973	STORM SUMMARY	KANSAS	TORNADOES: Number - 17
OCTOBER 1973	STORM SUMMARY	KANSAS	TORNADOES: Number - 4; Days - 2; Damage - 5
NOVEMBER 1973	STORM SUMMARY	KANSAS	LIGHTNING: Property - 4

REFERENCE NOTES

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES. Dates in the table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

- + And also on an earlier date or dates.
- D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch of water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA - METRIC UNITS: Data from airport unless otherwise specified.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile data can be evaluated.

- B Number of days maximum 21.1°C. or above for Alaskan Stations.
- Y Peak Gust.
- + And also on an earlier date or dates.
- U Indicates Urban site.
- R Indicates Rural site.
- Ø Station pressures apply to elevations shown in the "Elevations" table of the annual issue of this publication.

Conversion formulae to English Units are as follows:

- 1 foot = 0.3048 meters
- °F. = $9 \times ^\circ\text{C} + 32$
- 1 inch = 25.4 millimeters
- 1 mile per hour = 0.447 meters per second

HEATING DEGREE DAYS: Data from airport unless otherwise specified.

- U Indicates Urban site.
- R Indicates Rural site.

COOLING DEGREE DAYS: Data from airport unless otherwise specified.

- U Indicates Urban site.
- R Indicates Rural site.

STORM SUMMARY:

- ° Includes crop damage.
- C Crop damage.
- * No occurrence of storms or unusual weather phenomena reported.
- @ Includes heavy sleet storm.
- # Freezing drizzle and freezing rain, commonly known as glaze.
- Ø For breakdown of "All Others," and for detailed listing of other storms, see the Environmental Data Service, NOAA, monthly publication STORM DATA.
- * No Storm Data Report received for this State.
- ◇ Report Incomplete.
- † Storm damages are placed in categories varying from 1 to 9 as follows:
 - 1 Less than \$50
 - 2 \$50 to \$500
 - 3 \$500 to \$5,000
 - 4 \$5,000 to \$50,000
 - 5 \$50,000 to \$500,000
 - 6 \$500,000 to \$5 Million
 - 7 \$5 Million to \$50 Million
 - 8 \$50 Million to \$500 Million
 - 9 \$500 Million to \$5 Billion.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS:

- 1/ Flooding continued at the end of the month.
- NA Not available.

FLOOD STAGE DATA:

- # Highest Stage Observed
- 1 Continued at end of month
- 1 Highest Stage of Record
- E Estimated
- P Provisional (Flood Stage)
- U Unknown

RAWINSONDE DATA (Average Monthly Values):

All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygrometers. These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

- Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.
- Observations for these stations are scheduled at 0000 G.C.T.
- Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

REFERENCE NOTES - Continued

SOLAR RADIATION INTENSITIES: Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

()	Clouds Present	DM	Moderate Dust	HM	Moderate Haze	KS	Slight Smoke
*	Values corresponding to true solar noon	DS	Slight Dust	HS	Slight Haze	M	Moderate Haze-indeter-
BD	Blowing Dust	F	Fog	I	Intense Haze-indeterminable		minable
BN	Blowing Sand	GF	Ground Fog	K	Smoke	N	Sand
D	Dust	H	Haze	KI	Intense Smoke	S	Slight Haze-indeter-
DI	Intense Dust	HI	Intense Haze	KM	Moderate Smoke		minable

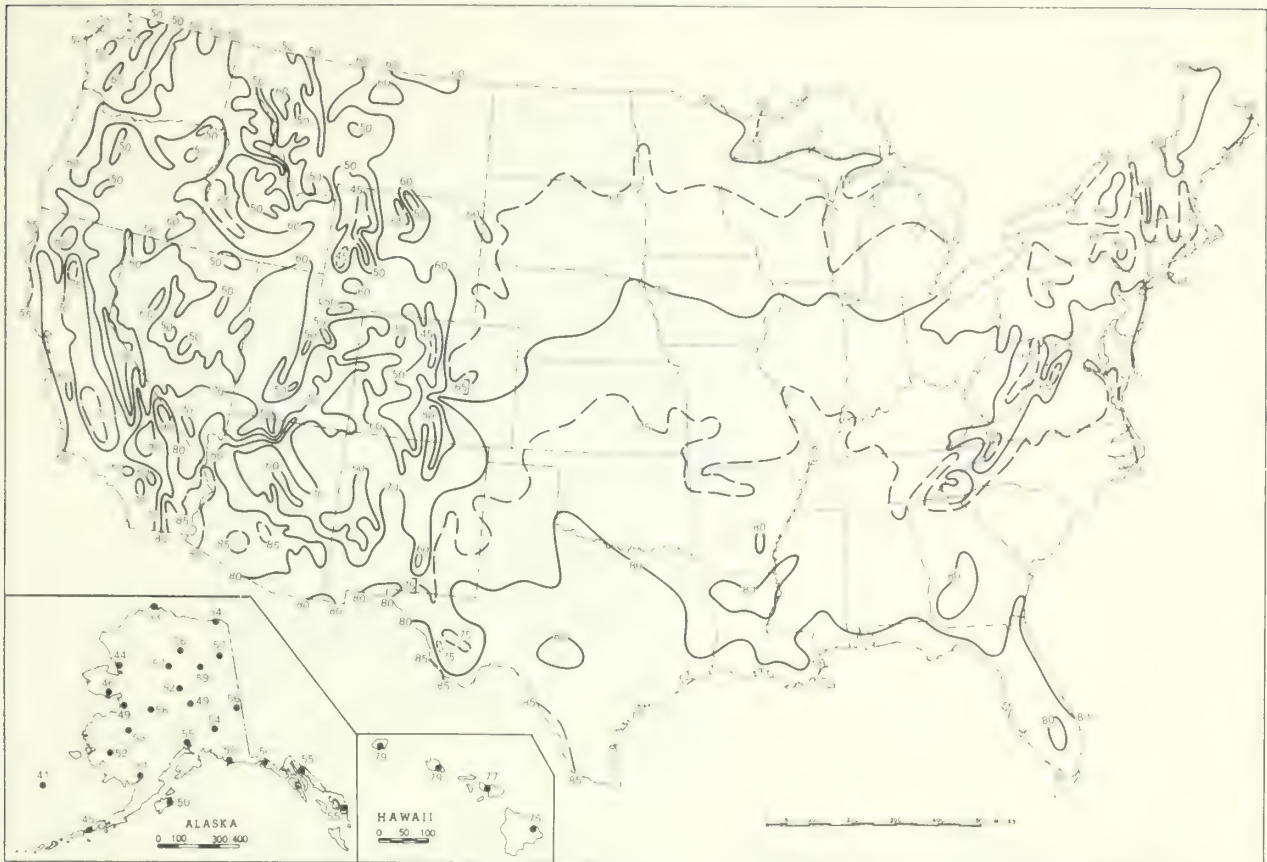
NET RADIATION: The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the NOAA, National Weather Service.

SOLAR ULTRA-VIOLET RADIATION DATA: These data are from an U-V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. This instrument has not been checked by the NOAA, National Weather Service.

TOTAL OZONE DATA: The spectrophotometer measures the total amount of ozone in the atmosphere, i.e., the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded $\lambda \lambda$) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e.g., 350 milli-atmo-cm ozone implies an ozone layer 0.350 centimeter thick. The code $\lambda \lambda$ designates the type of measurement made.

Chart 1. A. Normal Daily Average Temperature (°F. 1941-70), June.



B. Temperature Departure from 30 - Year Mean (°F. 1941-70), June 1974

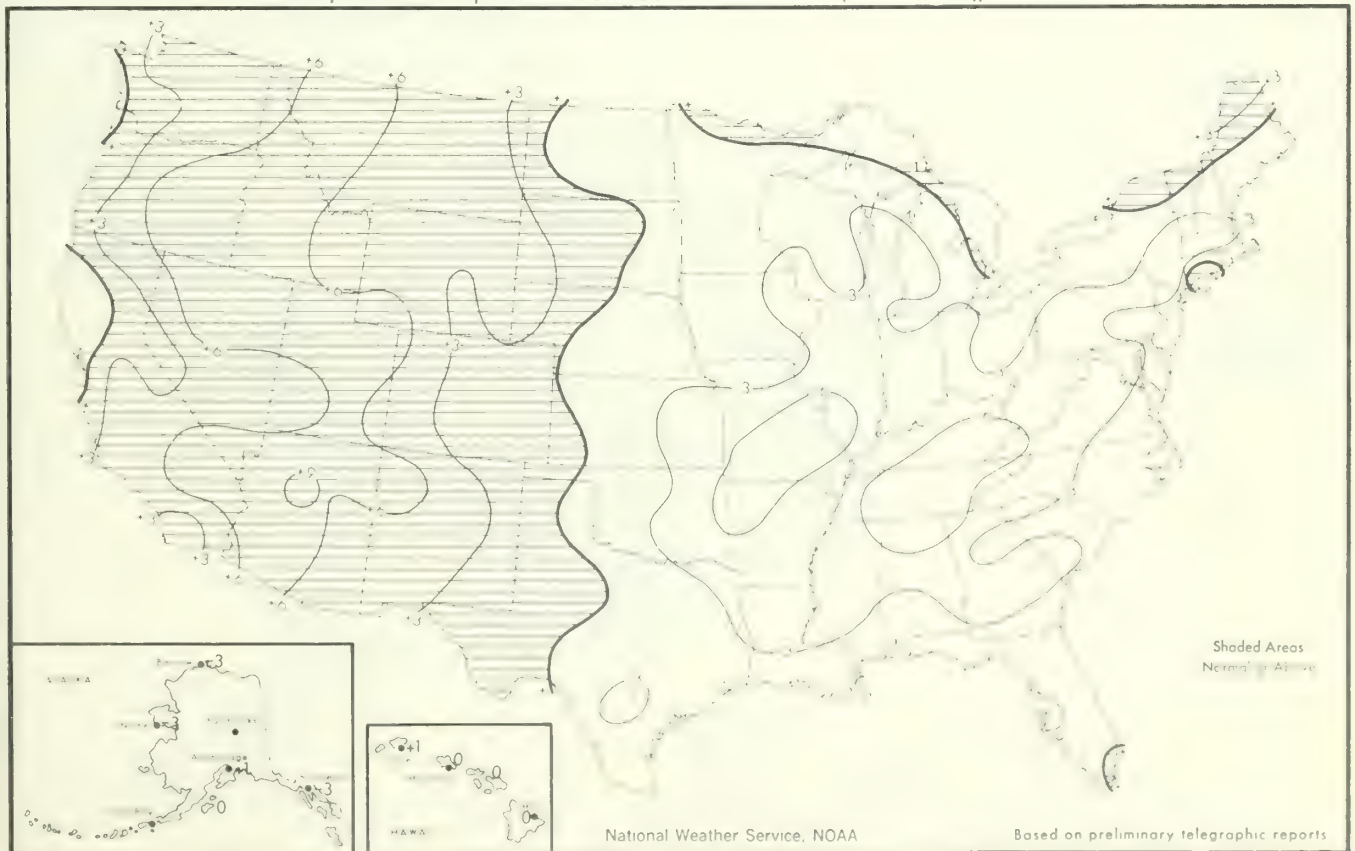
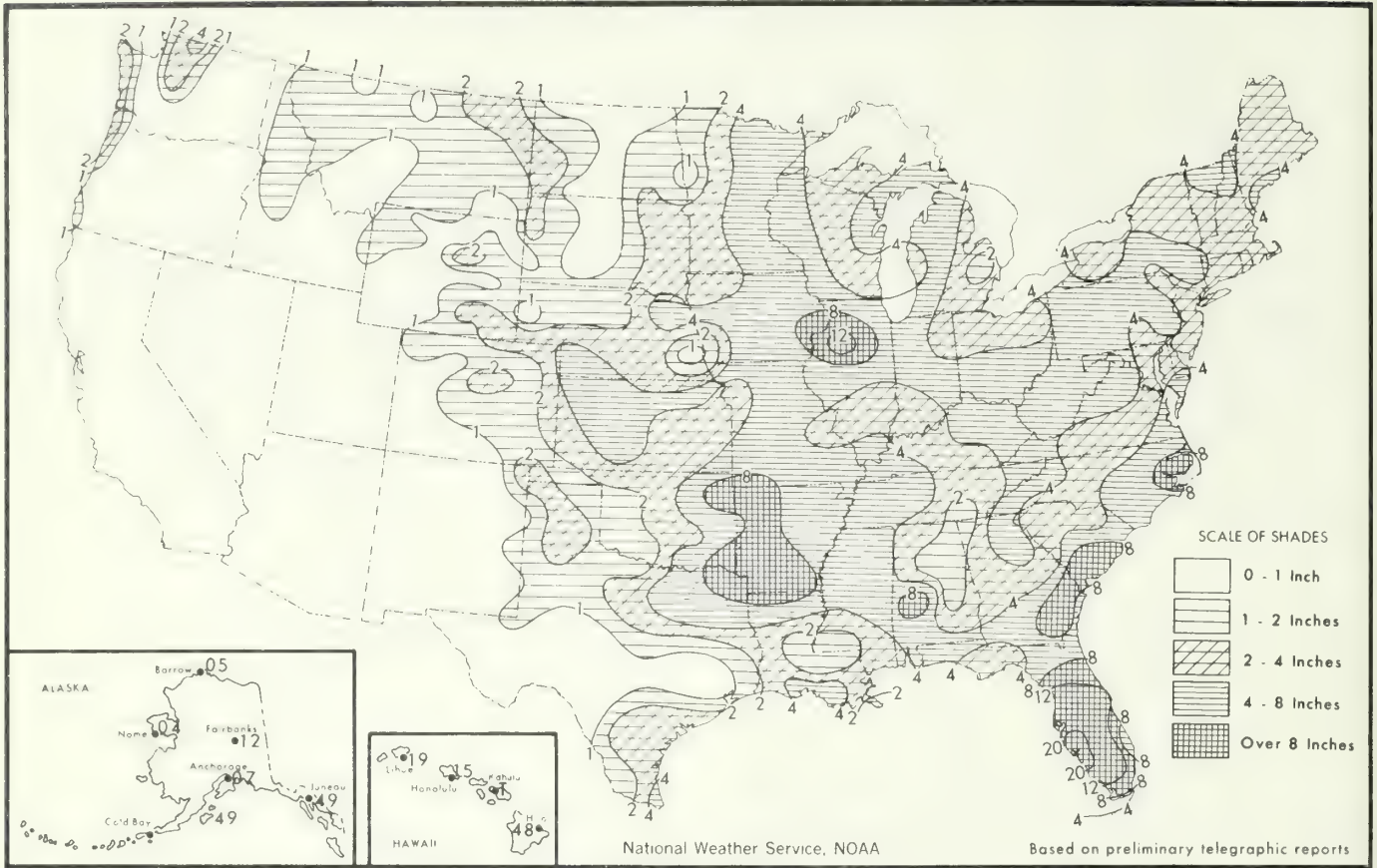
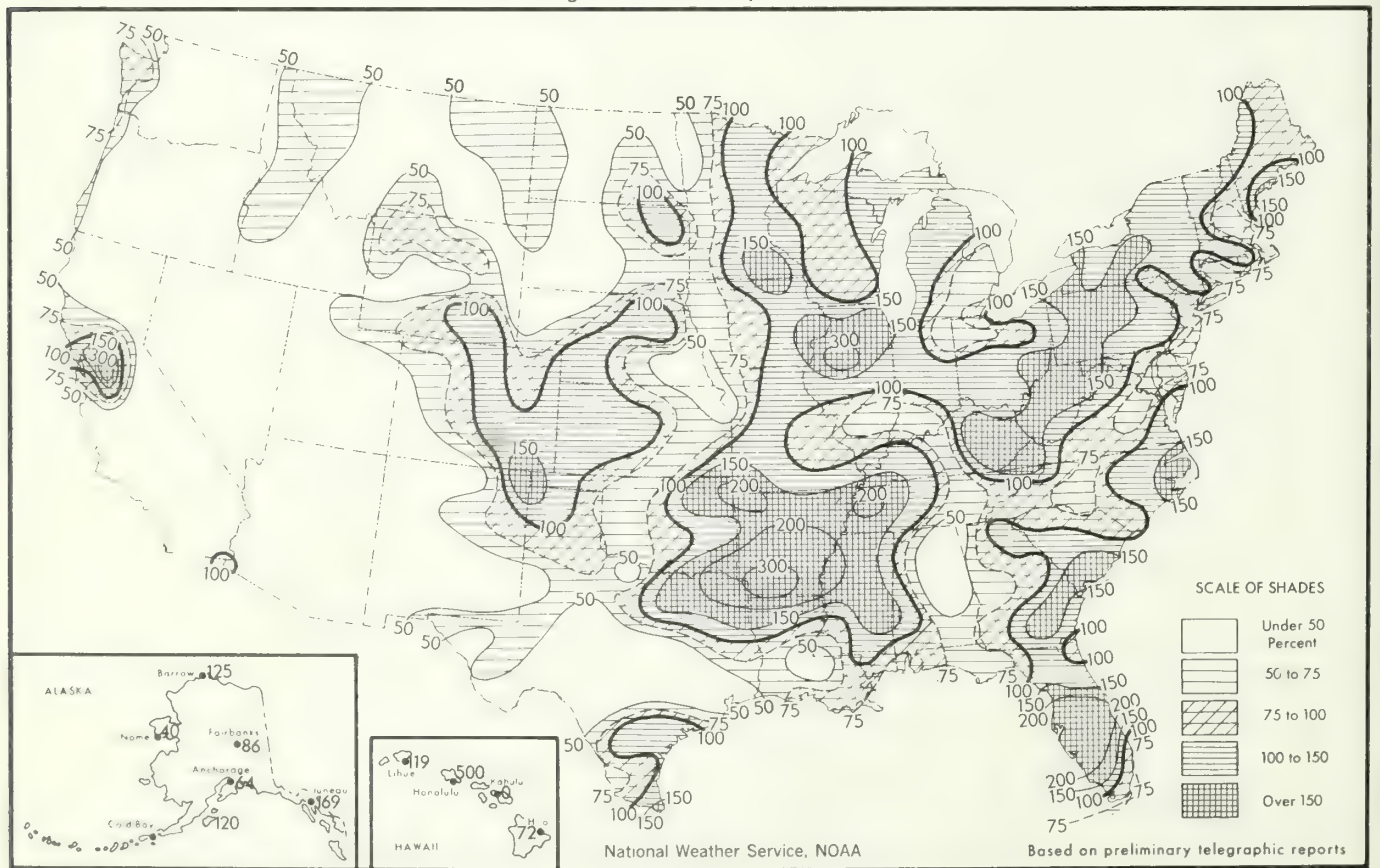


Chart II. A. Total Precipitation (Inches), June 1974



B. Percentage of Normal Precipitation, June 1974



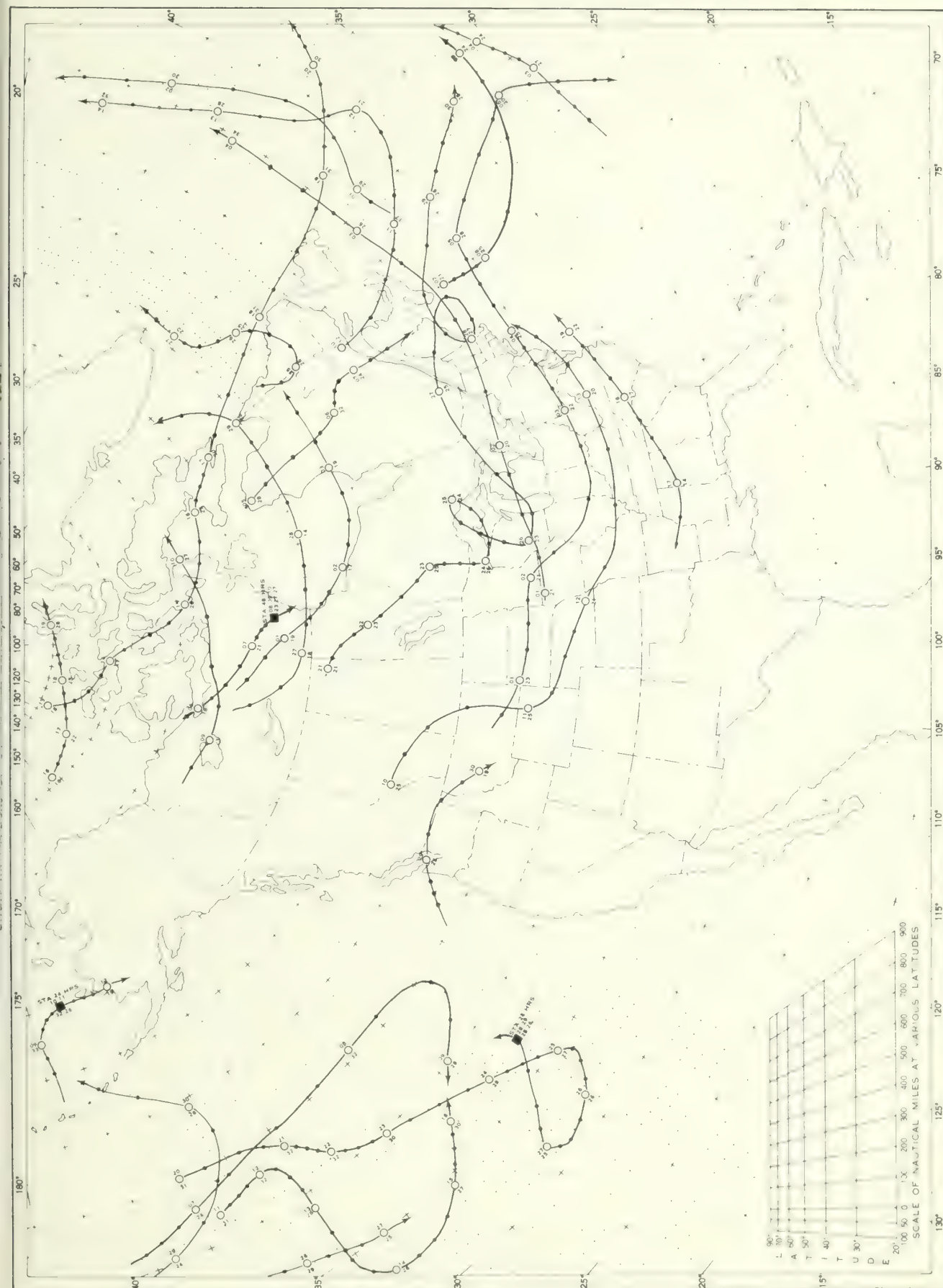
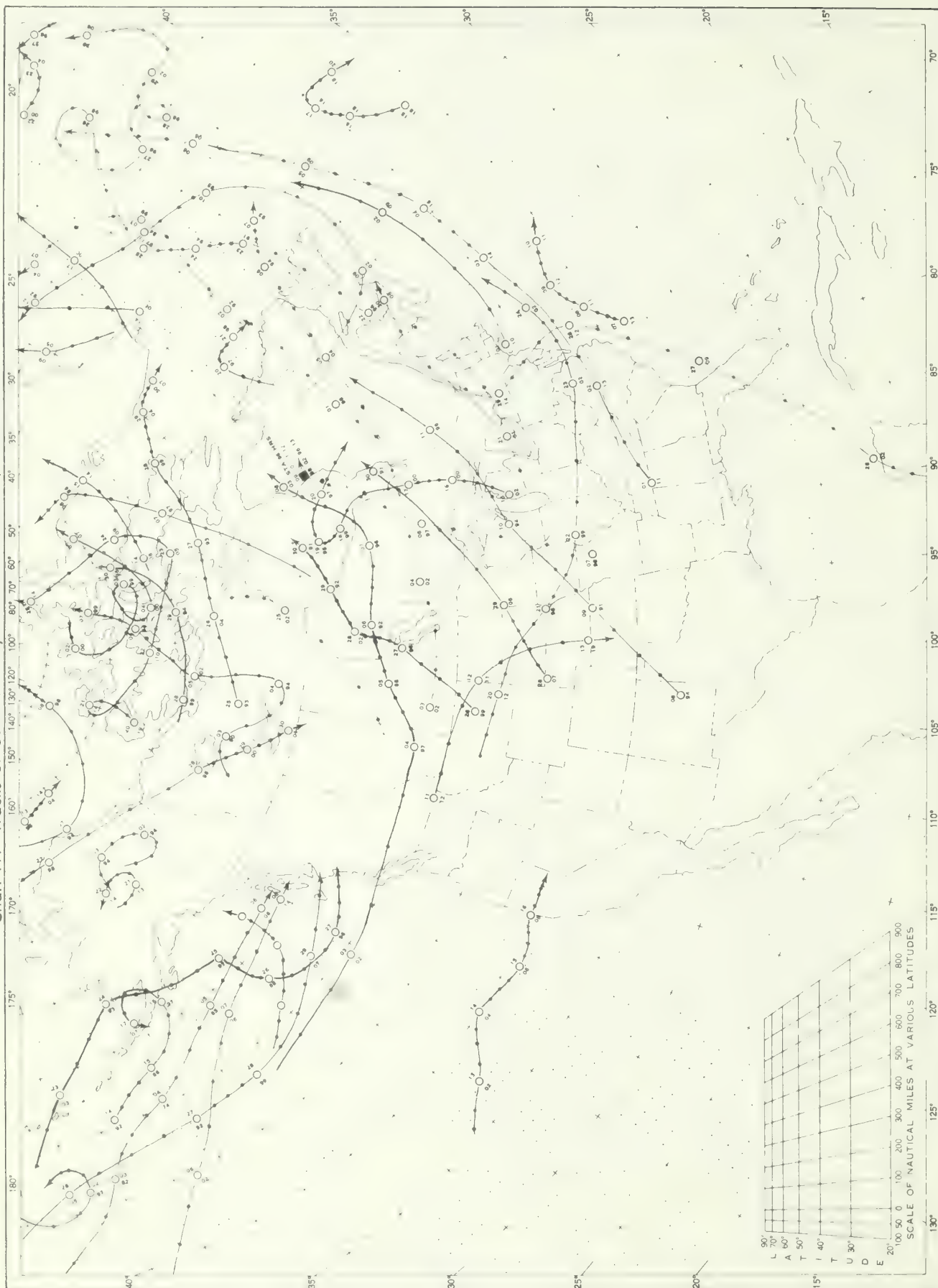


Chart IV. Tracks of Centers of Cyclones at Sea Level, June 1974



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar.

Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Environmental Data Service



JULY
1974

Volume 25

No. 7

Chapel Hill, N. C.

C O N T E N T S

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NOTE: Late reports and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

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I certify that this is an official publication of the National Oceanic and Atmospheric Administration and is compiled from records on file at the National Climatic Center, Asheville, North Carolina 28801.

William H. Haggard
Director, National Climatic Center

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

JULY 1974

GENERAL SUMMARY OF WEATHER CONDITIONS

Dr. Richard E. Felch, Climatologist

HIGHLIGHTS:

1. The eastern half of the Nation generally received less than normal precipitation during July. The Pacific Coast States received well above normal precipitation, with record amounts at several locations: San Francisco, Calif., 0.62 inches; Sacramento, 0.90 inches. Well below normal precipitation combined with extremely high temperatures over the Great Plains and western Corn Belt to produce severe stress in row crops.
2. Temperatures over much of the Nation were well above normal. Temperatures in eastern Nebraska, western Iowa, and South Dakota were about 6° above normal. Temperatures climbed to 100° or higher at Omaha, Nebr., on 13 days during the month, and were 90° or over 26 days.

PRECIPITATION: The lack of precipitation was a big factor in the July weather picture. Rainfall was scattered through the month and generally light. No significant rain-producing weather system crossed the Great Plains the entire month.

During the first week of July heaviest amounts fell in the Deep South and the Southeast, the Florida Peninsula, and isolated pockets in the Corn Belt.

Rainfall during the middle two weeks of July was highly variable and light. Heavier amounts were associated with thunderstorm activity. Rainfall totals in the Corn Belt for the two week period

were generally less than 1 inch. Some good rains fell during the week ending the 21st in the Desert Southwest. Generous rains also fell in the Pacific Northwest.

During the final week of July some good rains fell across the Deep South with amounts of 2 inches or more falling across parts of Arkansas, Mississippi, Tennessee, and Florida.

TEMPERATURE: Temperatures during the month were a primary causal factor for extensive concern over crops in the Great Plains and western Corn Belt. High temperatures rapidly diminished soil moisture supplies, causing extensive stress to row crops in several midwestern States. Although subsoil moisture was often adequate, late planted crops with less developed root systems could not keep up with the diminishing soil moisture line.

In the major area of concern, the Great Plains and western Corn Belt, temperatures averaged well above normal until the last two days of the month, when the heat wave finally broke. East of the Appalachians temperatures were below normal during the last half of the month.

The hottest temperatures occurred during the third week of July in the Great Plains. The 21st was the hottest day at Topeka, Kans., in 4 years as the mercury climbed to 105°; Omaha, Nebr., reached 110°.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

JULY 1974

STATE	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest °F	Date	Station	Lowest °F	Date	Station	Greatest In.	Station	Least In.
Alabama	2 Stations	99	13-	Hotchkiss	51	1	Prairieville	10.78	2 Stations	.92
Alaska	1 Station WSO AP	88	13	Atkasook	21	1	Mac Leod Harbor	10.44	Siana	.05
Arizona	2 Stations	120	28-	4 Stations	32	22+	Santa Rita Exp Range	10.06	3 Stations	.00
Arkansas	Dardanelle	109	22	Gilbert	51	31	Sagoula 3 N	10.22	Green Forest	.26
California	Death Valley	121	29-	Bodie	12	11	Whiskeytown Reservoir	7.08	81 Stations	.00
Colorado	1 Station FAA AP	106	2	Wolf Creek Pass 1 E	21	3	Allenspark	7.20	Doherty Ranch	.25
Connecticut	Norwalk Gas Plant	98	9-	Coventry	41	21	Woodbury	6.82	Mount Carmel	1.07
Delaware	3 Stations	96	11	2 Stations	50	23	Wilmington Porter Reservoir	2.96	Bridgeville 1 NW	.45
District of Columbia	National Mall	101	13	2 Stations	59	15	Moore Haven Lock 1	18.56	Key West WSO AP	2.38
Florida	Hawkinsville	99	31	Clayton 1 SSW	47	1	Brunswick FAA AP	11.74	Macon WSO AP	1.42
Georgia	Mana 1026, Kauai	94	20	Mauna Kea Slope Obs., Ha.	32	16+	Kahana 883, Oahu	29.85	3 Stations	.00
Hawaii	1 Station	108	29	2 Stations	27	3	Elk City	3.55	5 Stations	.00
Idaho	Barrington	103	10	4 Stations	50	31-	Gladstone Dam 18	5.72	Kaskaskia R Nav Lock	.16
Illinois	1 Station	102	13	New Castle	45	12	Hobart	3.73	Fort Wayne Disposal Plant	.17
Indiana	2 Stations	109	21	2 Stations	43	30	Bloomfield	6.73	Sioux City 8 N	.17
Iowa	Hunter	111	21	Goodland WSO AP	46	4	McDonald	4.22	7 Stations	.00
Kansas	Paducah Sewage Plant	100	20	2 Stations	49	22-	Hopkinsville	6.08	Cumberland Falls State Pk	.67
Kentucky	2 Stations	102	23-	3 Stations	60	7+	Grand Coteau	12.75	Converse	1.16
Louisiana	2 Stations	91	14-	2 Stations	38	21	Springsfield	5.56	Saco	1.99
Maine	Baltimore WSO CI	99	9	Oakland 1 SE	42	12	Frostburg 2	4.61	Woodstock	.64
Maryland	Chester 2	98	4	Chester 2	36	22	Adams	6.92	Nantucket FAA AP	.07
Massachusetts	Gull Lake Biological Sta.	103	14	2 Stations	33	21+	Cornell 4 WSW	6.41	Monroe	.35
Michigan	Redwood Falls FAA AP	105	13	Tower 3 S	36	1	Hibbing Power Substation	7.83	Windom	.47
Minnesota	3 Stations	101	22-	2 Stations	57	1	Mc Henry 5 ESE	10.55	Lexington 2 NNW	.97
Mississippi	1 Station	112	21	Cole Camp 9 SE	46	30	Unionville	6.90	Bunker	.00
Missouri	1 Station	105	15	Sota 1 NE	20	26	Roy 24 NE Moberge	4.82	Glen 4 N	.17
Montana	Fairbury 2 SSE	112	22	Agate 3 E	36	4	Hayes Center	3.64	Staplehurst	.00
Nebraska	Sunrise Manor Las Vegas	117	28	Rand Ranch Palisade	24	3	Mount Rose Bowl	2.46	2 Stations	.00
Nevada	4 Stations	93	14-	Mount Washington	33	12+	Mount Washington	9.84	Epping	.57
New Hampshire	2 Stations	98	10-	Long Valley	45	12	Chaisworth	5.63	Millville FAA AP	.54
New Jersey	Maljamar 4 SE	106	25	Belvidere 2 NNE	31	24	Mountainair	7.89	Jal	.03
New Mexico	New York Laurel Hill	99	4	Bolivar	36	21	Cobleskill 2	9.75	Mineola	.59
New York	Jackson	99	15	Cataloochee	42	1	Kenansville	11.07	Rougemont	.23
North Carolina	3 Stations	104	19-	Wishek	38	30	Bottineau	6.32	Keene 4 S	.45
North Dakota	Toledo Blade	101	15	Mansfield 6 W	40	12	Ashtabula	6.54	Upper Sandusky	.19
Ohio	Clinton	115	22	2 Stations	52	30	Kenton	4.31	3 Stations	.00
Oregon	2 Stations	106	29-	Sprague River	24	14	Nehalem 9 NE	6.75	Lost Creek Dam	.02
Pennsylvania	Marcus Hook	99	9	Clermont 4 NW	33	21-	Lock Haven	8.81	Graterford 1 E	1.05
Puerto Rico	San Sebastian 2 WNW	98	14	San Sebastian 2 WNW	52	13	Hacienda Constanza	11.68	Santa Rita	.63
Rhode Island	Greenville	95	9	Kingston	44	21	Block Island WSO AP	2.10	Greenville	1.17
South Carolina	7 Stations	98	31-	Caesars Head 1 NE	50	1	Longcreek 1 N	12.02	Gaston Shoals	.82
South Dakota	2 Stations	112	6	Pawtola Dam	35	4	Hill City	4.99	2 Stations	.66
Tennessee	Dyersburg FAA AP	100	19	2 Stations	50	22-	Clarksville Sewage Plant	7.16	Cordell Hull Lock-Dam	.74
Texas	Bridgeport	113	24	Mount Locke	50	19	Kirbyville Forest Service	7.16	16 Stations	.00
Utah	Saint George	108	29-	Silver Lake Brighton	28	18-	Soldier Summit	3.82	Hite Marina	.00
Vermont	Vernon	95	5	Morrisville 2	38	17	Mount Mansfield	8.30	Searsburg Station	2.41
Virginia	Partlow 3 WNW	99	16	Monterey	42	12	Bohannon 1 NE	7.93	Parramore Beach L B S	.22
Virgin Islands	Frenchmans Bay	93	29-	2 Stations	69	22-	Annas Hope	4.24	Tague Bay	1.12
Washington	1 Station Monumental Dam	108	29	Rainier Paradise RS	30	11	Quinault Ranger Station	9.45	Lake Cle Elum	.01
West Virginia	2 Stations	96	9-	2 Stations	37	13+	Hamlin	7.25	Racine Locks and Dam	1.11
Wisconsin	7 Stations	101	13	Jump River 5 E	37	27	Antigo 1 SSW	5.79	Stanley	.22
Wyoming	2 Stations	103	12-	2 Stations	23	14+	Saratoga	3.12	Church Buttes Gas Plant	7

CLIMATOLOGICAL DATA

METRIC UNITS

JULY 1974

State and Station	Elevation (ground)	Pressure		Temperature										Precipitation					Wind				No. of days (sunrise to sunset)		Sky cover, tenths (sunrise to sunset)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days		Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	25 mm. or more	With thunderstorms	Snow, ice pellets					Resultant direction	Speed	Direction	Date																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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CLIMATOLOGICAL DATA

METRIC UNITS

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CLIMATOLOGICAL DATA

July Y

1974

State and Station	Pressure		Temperature										Precipitation				Wind			No. of days (sunrise to sunset)																												
	Elevation (ground)	Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days		Total	Departure from normal	Greatest in 24 hours	25 mm. or more	With thunderstorms	Total	Snow, ice pellets	Speed	Direction	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)																						
												°C	°F														mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
	m	mb	mb	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F																					
MISSISSIPPI	JACKSON	94	1005.4	1017.2	32.7	21.1	26.9	-0.7	35.6	22.4	17.8	8	23	0	21.1	74	39	-1.9	14	9	10	0	0.5	23	13.9	N	20	11	12	8	5.2																	
	MEMPHIS	88	1006.6	1017.2	34.4	21.4	27.9	0.6	36.7	29.4	17.2	1	30	0	21.1	73	29	-1.1	8	7	9	0	0.5	27	8.9	N	18	13	5	4.6																		
MISSOURI	COLUMBIA REGIONAL	270	984.8	1016.5	33.3	19.2	26.3	1.1	37.8	28.4	13.3	30	22	0	17.8	63	36	-62	33	4	6	0	1.4	17	13.9	NW	3	16	9	6	4.1																	
	KANSAS CITY	309	979.0	1015.0	34.9	20.8	27.8	1.8	41.7	21	18.4	30	26	0	15.6	50	29	-82	28	2	2	0	2.1	17	18.8	NW	3	21	10	2	2.7																	
	ST JOSEPH	247			35.8	19.1	27.4	1.8	40.6	21	9.4	30	29	0	15.6	50	14	-83				1.9	16	13.0	23	3	19	2	3.3																			
	ST LOUIS	163	996.3	1016.3	33.2	19.9	26.6	0.7	37.2	19.4	18.4	30.4	21	0	18.9	65	23	-71	13	3	7	0	0.5	20	13.0	NW	28	18	11	2	3.6																	
	SPRINGFIELD	386	971.9	1016.3	34.0	18.7	26.3	0.9	38.9	22.4	11.7	30	28	0	17.2	62	47	-44	23	4	5	0	1.3	17	13.4	SE	15	22	8	1	2.5																	
MONTANA	BILLINGS	1087	891.3	1012.3	32.0	15.8	23.9	1.8	37.8	15	10.0	3	19	0	8.3	41	23		13	8	7	0	0.3	36	16.1	NW	22	15	12	4	3.7																	
	GLASGOW	696	932.6	1012.8	30.8	15.1	22.9	1.6	38.9	15	8.9	26	11	0	10.6	50	59	-22	33	7	12	0	1.1	7	13.0	24	12	14	10	7	4.4																	
	GREAT FALLS	1116	888.9	1013.0	31.4	13.9	22.7	2.0	37.2	19	10.0	13	17	0	9.5	36	12	-20	8	9	9	0	1.6	26	15.2	SW	12	11	16	4	4.5																	
	HAYDEN	1788	922.5		32.2	13.4	22.8	1.8	39.4	19	7.8	13	20	0	4.4	86	18	-17	6	9	9	0	1.6	20	13.4	NW	19	10	12	5	4.0																	
	HELENA	1862	901.5	1013.9	20.5	12.4	21.8	1.4	35.6	14	1.2	13	0	0	4.4	86	12	-16	7	7	6	0	1.6	20	13.4	NW	10	14	12	10	4.9																	
NEBRASKA	MILES CITY	801	930.8	1013.3	33.7	17.9	25.8	1.9	34.4	22	18.3	12	20	0	8.3	45	34	-5				1.8	7	13.4	13	14	12	10	4.9																			
	MUSKOGEE	801	930.8	1013.3	33.7	17.9	25.8	1.9	34.4	22	18.3	12																																				
	MISSOULA	972	905.2	1015.4	29.6	10.4	20.1	0.8	36.7	14	5.6	12	12	0	7.2	49	26	-3	11	11	5	0	1.2	30	18.8	S	19	14	11	6	4.5																	
NEBRASKA	GRAND ISLAND	561	948.9	1013.2	36.0	19.8	27.9	3.3	40.6	1	13.3	30	26	0	18.4	47	34	-82	16	4	7	0	3.0	18	15.6	27	27	20	8	3	3.1																	
	LINCOLN	360	972.2	1013.5	37.0	20.5	28.8	3.6	41.1	21	11.7	30	29	0	13.9	44	12	-73	19	4	4	0	2.4	18	15.7	SW	2	17	11	3	3.3																	
	NORFOLK	471	917.7	1013.0	35.2	19.4	27.3	3.2	40.0	20.4	9.4	30	27	0	13.3	53	21	-59	15	4	4	0	0	1.8	17.0	W	10	15	13	3	3.7																	
	NORTH PLATTE	846	979.7	1014.2	36.2	19.6	27.9	2.8	43.3	21	10.0	30	26	0	16.7	55	20	-18	37	7	10	0	0	16	17.0	SW	27	16	12	3	3.7																	
	OMAHA	298	979.7	1014.2	36.2	19.6	27.9	2.8	43.3	21	10.0	30	26	0	16.7	55	20	-18	37	7	10	0	0	16	17.0	SW	27	16	12	3	3.7																	
NEVADA	SCOTTSDUFF	1266	880.1	1012.5	34.3	15.1	24.7	1.6	38.9	6	8.9	4	25	0	10.0	45	17	-28	8	4	7	0	0.5	10	20.6	28	10	15	12	4	4.2																	
	VALENTINE	789			34.5	17.8	26.2	2.8	39.4	6	7.8	29	24	0	11.1	45	32	-31	11	7	7	0	0	31	19.7	S	7	15	13	3	3.8																	
NEW HAMPSHIRE	ELKO	1539	865.6	1012.8	31.5	10.5	21.0	0.2	35.6	22	2.2	11	19	0	1.7	31	5	-6	3	3	4	0	0.8	25	10.3	10	29.4	15	8	4	4.0																	
	ELY	1206	811.7	1011.7	30.4	9.2	19.8	0	33.2	22	2.2	11	19	0	1.7	31	12	-8	4	4	9	0	0.8	21	10.5	N	20	12	11	3	4.0																	
	LAS VEGAS	659	935.7	1010.0	38.9	24.1	31.6	0.2	43.3	28.4	18.3	11	10	0	8.8	27	15	-4	9	4	6	0	2.0	20	18.6	NE	20	17	11	3	4.2																	
	RENO	1342	866.9	1013.8	31.2	7.6	19.4	-1.3	36.7	28	0.6	11	19	0	2.6	40	8	2	7	3	3	0	1.9	27	13.9	W	9	21	7	3	3.7																	
	WINNEMUCCA	1311	868.8	1012.6	33.9	9.7	21.8	0.2	38.9	28	0.0	11	24	1	0.6	27	7	2				0	1.2	29	13.1	N	19	19	7	5	3.2																	
NEW JERSEY	ATLANTIC CITY	20	1013.9	1016.2	29.7	18.0	23.9	-0.1	35.0	9.4	10.6	23	9	0	18.2	73	51	-60	20	6	8	0	1.1	26	9.8	36	19	5	15	11	6.3																	
	ATLANTIC CITY U	3			28.0	20.4	24.2	0.7	35.0	9	16.7	12	4	0	15.0	57	65	-39	31	5	3	0	1.6	27	16.5	NW	10	5	14	12	6.4																	
	TRENTON U	17	1014.6	1015.5	29.6	20.1	25.1	0.4	35.0	9.4	16.1	25.4	9	0	15.0	57	80	-40	48	7		0	1.6	27	16.5	NW	19	8	16	7	6.4																	
NEW MEXICO	ALBUQUERQUE	1619	840.8	1013.0	32.7	17.3	25.0	-0.9	38.3	3	15.0	21.4	18	0	7.2	37	61	-26	15	16	16	0	0.8	19	24.1	E	4	8	18	5	4.8																	
	CLAYTON	1515			31.2	15.9	23.6	0.5	35.0	2	11.7	30	13	0	15.6	79	72	-2	21	6		0	0	29	11.6	W	31.4	5	12	14	6.8																	
NEW YORK	ALBANY	84	1004.7	1015.2	27.4	13.9	20.7	-1.5	33.3	4	7.2	21.4	2	0	15.6	74	123	-44	51	13	10	0	1.3	24	12.5	NW	19	5	13	13	6.4																	
	BINGHAMTON	485	959.0	1016.8	26.3	15.6	20.9	0.3	33.3	14	11.1	21.4	1	0	13.9	66	107	-10	42	12	5	0	1.9	26	11.6	N	19	10	11	10	5.8																	
	BUFFALO	215	990.5	1016.0	26.2	15.9	21.1	-0.1	32.2	4	10.6	21	1	0	13.9	65	46	-29	22	10	5	0	2.9	24	16.1	W	29	5	13	13	6.3																	
	NEW YORK U	40	1014.2	1014.5	30.2	19.9	24.1	0.3	35.0	14.4	13.0	25	10	0	15.6	60	34	-60	14	6	4	0	1.0	30	7.6	ENE	11	9	14	8	5.6																	
	NEW YORK KENNEDY	4	1014.9	1015.7	29.2	20.1	24.8	0.8	36.1	9	15.6	26.4	9	0	16.7	65	33	-70	19	5	1	0	1.4	25	13.0	29	5	14	8	5.6																		
NORTH CAROLINA	NEW YORK LA GUARDIA	167	986.6	1015.7	29.2	20.5	24.9	0.1	35.0	4	16.1	25.4	9	0	15.1	61	36	-61	24	5	3	0	1.9	28	10.3	SW	5	6	15	10	6.0																	
	ROCKY HILL	125	1000.7	1015.3	26.8	14.4	20.6	-1.3	33.3	4	9.4	17	3	0	15.6	74	242	-104	103	13	12	0	1.5	27	13.4	NW	27	9	11	11	5.8																	
	ASHEVILLE	652	943.4	1018.4	28.3	17.1	22.7	-0.3	31.7	15	13.9	2	0	0	18.3	81	100	-24	31	12	11	0	0.4	34	7.6	34	21.4	4	12	15	6.5																	

1976

Chlorine

CLIMATOLOGICAL DATA

METRIC UNITS

JULY 1974

State and Station	Pressure		Temperature				Precipitation				Wind			No. of days /sunrise to sunset/	Sky cover (tenths [sunrise to sunset])																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	Elevation (ground)	Station Q	mb	mb	Average		Departure from normal		Highest		Lowest		Date			No. of days	Max 32.2 °C or above	Min. 0 °C or lower	Average dew point C	°																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
					Average maximum	Average minimum	C	F	C	F	C	F	C								F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C

HEATING DEGREE DAYS

(Base 65°F.)

JULY 1974

State and station	Current season		Normals July through this month	State and station	Current season		Normals July through this month	State and station	Current season		Normals July through this month	State and station	Current season		Normals July through this month
	This month	Period July through this month			This month	Period July through this month			This month	Period July through this month			This month	Period July through this month	
ALABAMA				IDAHO				NEBRASKA				TENNESSEE			
BIRMINGHAM	0		0	BOISE	10	10	0	GRAND ISLAND	0	0	0	BRISTOL	0	0	0
HUNTSVILLE	0	0	0	LEWISTON	9	9	0	LINCOLN	0	0	0	CHATTANOOGA	0	0	0
MOBILE	0	0	0	POCATELLO	11	11	0	NORFOLK	0	0	0	KNOXVILLE	0	0	0
MONTGOMERY	0	0	0					NORTH PLATTE	0	0	0	MEMPHIS	0	0	0
ALASKA				ILLINOIS	0	0	0	OMAHA	0	0	0	NASHVILLE	0	0	0
ANCHORAGE	235	235	220	CAIRO U	0	0	0	SCOTTSBLUFF	0	0	0	OAK RIDGE R	0	0	0
ANNETTE	298	298	231	CHICAGO O HARE	0	0	0	VALENTINE	0	0	0				
BARROW	794	795	815	CHICAGO MIDWAY	0	0	0					TEXAS			
BARTER ISLAND	817	837	775	MOLINE	0	0	0	NEVADA				ABILENE	0	0	0
BETHEL	318	318	319	PEORIA	0	0	0	ELKO	28	28	27	AMARILLO	0	0	0
BETHEL	192	192	231	ROCKFORD	0	0	0	FLY	12	12	23	AUSTIN	0	0	0
BIG DELTA	144	165	141	SPRINGFIELD	0	0	0	LAS VEGAS	0	0	0	BROWNSVILLE	0	0	0
COLD BAY	440	440	462				RENO	52	52	17	CORPUS CHRISTI	0	0	0	
FAIRBANKS	85	85	148	INDIANA	0	0	0	WINNEMUCCA	32	32	6	DALLAS-FT WORTH	0	0	0
GILKANA	241	241	254	EVANSVILLE	0	0	0					DEL RIO	0	0	0
HOMER	348	348	394	FORT WAYNE	0	0	0	NEW HAMPSHIRE				EL PASO	0	0	0
KENAI	349	349	288	INDIANAPOLIS	0	0	0	CONCORD	34	34	14	GALVESTON U	0	0	0
KING SALMON	288	288	326	SOUTH BEND	0	0	0	MT WASHINGTON OBS	544	544	502	HOUSTON INTERCON	0	0	0
KOTZEBUE	353	353	375	IOWA								LUBBOCK	0	0	0
MC GRATH	173	173	219	BURLINGTON	0	0	0	NEW JERSEY				MIDLAND	0	0	0
NOME	435	435	442	DES MOINES	0	0	0	ATLANTIC CITY	0	0	0	PORT ARTHUR	0	0	0
ST. PAUL ISLAND	404	404	598	DUBUQUE	0	0	11	ATLANTIC CITY U	0	0	0	SAN ANGELO	0	0	0
SUMMIT	398	398	403	SIoux CITY	0	0	7	NEWARK	1	1	0	SAN ANTONIO	0	0	0
TALKEETNA	249	249	220	WATERLOO	0	0	0	TRENTON U	1	1	0	VICTORIA	0	0	0
UNALAKLEET	302	302	341					NEW MEXICO	0	0	0	WACO	0	0	0
YAKUTAT	392	392	340	KANSAS				ALBUQUERQUE	0	0	0	WICHITA FALLS	0	0	0
				CONCORDIA	0	0	0	CLAYTON	2	2	0				
ARIZONA				DOUG CITY	0	0	0					UTAH			
FLAGSTAFF	19	19	52	GOODLAND	0	0	0	NEW YORK				MILFORD	0	0	0
PHOENIX	0	0	0	TOPEKA	0	0	0	ALBANY	17	17	9	SALT LAKE CITY	0	0	0
TUCSON	0	0	0	WICHITA	0	0	0	BINGHAMTON	14	14	21	WENDOVER	0	0	0
WINSLOW	0	0	0					BUFFALO	2	2	12	VERMONT			
YUMA	0	0	0	KENTUCKY				NEW YORK U	1	1	0	BURLINGTON	2	2	20
				COVINGTON	0	0	0	NEW YORK KENNEDY	0	0	0				
ARKANSAS				LEXINGTON	0	0	0	NEW YORK LA GUARDIA	0	0	0	VIRGINIA			
FORT SMITH	0	0	0	LOUISVILLE	0	0	0	ROCHESTER	1	1	9	LYNCHBURG	0	0	0
LITTLE ROCK	0	0	0				SYRACUSE	16	16	11	NORFOLK	0	0	0	
				LOUISIANA								RICHMOND	0	0	0
CALIFORNIA				ALEXANDRIA	0	0	0	NORTH CAROLINA				ROANOKE	0	0	0
BAKERSFIELD	0	0	0	BATON ROUGE	0	0	0	ASHEVILLE	0	0	0	WALLOPS ISLAND	0	0	0
BISHOP	0	0	0	LAKE CHARLES	0	0	0	CAPE HATTERAS R	0	0	0				
BLUE CANYON	85	85	27	NEW ORLEANS	0	0	0	CHARLOTTE	0	0	0	WASHINGTON	103	103	89
CHURCH	222	222	270	SHREVEPORT	0	0	0	GREENSBORO	0	0	0	OLYMPIA	223	223	194
COLEMAN	0	0	0				RALEIGH	0	0	0	QUILLAYUTE	58	58	62	
LONG BEACH	0	0	0	MAINE				WILMINGTON	0	0	0	SEATTLE	40	40	80
LOS ANGELES	0	0	19	CARIBOU	40	40	84					SEATTLE-TACOMA	41	41	21
LOS ANGELES U	0	0	0	PORTLAND	15	15	27	NORTH DAKOTA				SPOKANE	353	353	281
MT CROSBY R	79	79	37				BISMARCK	6	6	18	STAMPEDE PASS R	8	8	5	
OAKLAND	91	91	80	MARYLAND			FARGO	3	3	13	WALLA WALLA U	44	44	20	
RED BLUFF	6	6	0	BALTIMORE	0	0	0	WILLISTON	1	1	22	YAKIMA			
SACRAMENTO	7	7	0									WEST VIRGINIA			
SANDBERG R	23	23	7	MASSACHUSETTS				OHIO				BECKLEY	5	5	11
SAN DIEGO	0	0	0	BLUE HILL OBS R	4	4	6	AKRON	0	0	9	CHARLESTON	0	0	0
SAN FRANCISCO	83	83	93	BOSTON	0	0	0	CINCINNATI ABBE OB	0	0	0	ELKINS	29	29	20
SAN FRANCISCO U	167	167	202	WORCESTER	6	6	10	CLEVELAND	2	2	9	HUNTINGTON	0	0	0
SANTA MARIA	60	60	112				COLUMBUS	0	0	0	PARKERSBURG U	0	0	0	
STOCKTON	0	0	0	MICHIGAN				DAYTON	0	0	0				
				ALPENA	44	44	74	WANSFIELD	0	0	0	WISCONSIN			
COLORADO				DETROIT	0	0	0	TOLEDO	2	2	5	GREEN BAY	6	6	22
ALAMOSA	41	41	55	DETROIT METRO	0	0	5	YOUNGSTOWN	8	8	9	LA CROSSE	0	0	10
COLORADO SPRINGS	1	1	9	FLINT	4	4	14					MADISON	1	1	14
DENVER	0	0	0	GRAND RAPIDS	5	5	8	OKLAHOMA				MILWAUKEE	0	0	15
GRAND JUNCTION	0	0	0	HOUGHTON LAKE	27	27	59	OKLAHOMA CITY	0	0	0				
PUEBLO	0	0	0	LANSING	6	6	9	TULSA	0	0	0				
				MARQUETTE U	27	27	57					WYOMING			
CONNECTICUT				MUSKOGEE	7	7	14	OREGON				CASPER	3	3	13
BRIDGEPORT	0	0	0	SAULT STE MARIE	57	57	96	ASTORIA	174	174	163	CHEYENNE	4	4	22
HARTFORD	2	2	0				BURNS U	40	40	30	LANDER	4	4	9	
				MINNESOTA			EUGENE	29	29	41	SHERIDAN	3	3	28	
DELAWARE				DULUTH	45	45	67	MEACHAM	157	157	88				
WILMINGTON	0	0	0	INTERNATIONAL FALLS	12	12	66	MEDFORD	20	20	11				
				MINNEAPOLIS	0	0	11	PENDLETON	8	8	6				
DIST. OF COLUMBIA				ROCHESTER	0	0	21	PORTLAND	32	32	48				
WASHINGTON DULLES	0	0	0	ST CLOUD	4	4	18	SALEM	48	48	43				
WASHINGTON NATIONAL	0	0	0					SEXTON SUMMIT R	185	185	97				
				MISSISSIPPI											
FLORIDA				JACKSON	0	0	0	PENNSYLVANIA							
APALACHICOLA U	0	0	0	MERIDIAN	0	0	0	ALLENTOWN	2	2	0				
DAYTONA BEACH	0	0	0					ERIE	32	32	24				
FORT MYERS	0	0	0	MISSOURI				HARRISBURG	0	0	0				
JACKSONVILLE	0	0	0	COLUMBIA REGIONAL	0	0	0	PHILADELPHIA	0	0	0				
KEY WEST	0	0	0	KANSAS CITY	0	0	0	PITTSBURGH	0	0	7				
LAKELAND U	0	0	0	ST JOSEPH	0	0	0	SCRANTON	5	5	7				
MIAMI	0	0	0	ST LOUIS	0	0	0	WILLIAMSPORT	1	1	0				
ORLANDO	0	0	0	SPRINGFIELD	0	0	0								
PENSACOLA	0	0	0					RHODE ISLAND							
TALLAHASSEE	0	0	0	MONTANA				BLOCK ISLAND	6	6	9				
TAMPA	0	0	0	BILLINGS	7	7	10	PROVIDENCE	0	0	0				
WEST PALM BEACH	0	0	0	GLASGOW	2	3	15								
				GREAT FALLS	6	6	18	SOUTH CAROLINA							
GEORGIA				HAVRE	1	1	18	CHARLESTON	0	0	0				
ATHENS	0	0	0	HELENA	16	16	33	CHARLESTON U	0	0	0				
ATLANTA	0	0	0	KALISPELL	54	54	72	COLUMBIA	0	0	0				
AUGUSTA	0	0	0	MILES CITY	4	4	9	GRNVILLE-SPRTNBRG	0	0	0				
COLUMBUS	0	0	0	MISSOULA	27	27	39								
MACON	0	0	0					SOUTH DAKOTA							
ROME	0	0	0					ABERDEEN	0	0	12				
SAVANNAH	0	0	0					HURON	1	1	9				
								RAPID CITY	1	1	13				
								SIoux FALLS	2	2	10				

COOLING DEGREE DAYS

(Base 65°F.)

1991

State and station	Current season			State and station	Current season			State and station	Current season		
	This month	Period January through this month	Normal January through this month		This month	Period January through this month	Normal January through this month		This month	Period January through this month	Normal January through this month
ALABAMA				HAWAII				NEBRASKA			
BIRMINGHAM	415	900		HILO	351	1244		GRAND ISLAND	541	813	
MONTGOMERY	415	798		HONOLULU	468	2550		INDEPENDENCE	589	875	
MOBILE	539	1444		KAHULUI	378	2174		NORFOLK	506	758	
MONTGOMERY	485	1227		LIHUE	441	2414		NORTH PLATTE	394	540	
ALASKA				IDAH				OMAHA	540	785	
ANCHORAGE	1	1		BOISE	249	554		SCOTTSBLUFF	363	579	
FAIRBANKS	0	0		LEWISTON	244	530		VALENTINE	446	607	
HELIKOPTER	0	0		POCATELLO	215	346		NEVADA			
BETHEL	0	0		ILLINOIS				EL PASO	185	286	
BETHEL	0	0		CAIRO U	506	912		EL PASO	102	165	
BIG LAKE	0	0		CHICAGO O HARE	274	388		LAS VEGAS	744	1936	
COLD BAY	0	0		CHICAGO MIDWAY	329	478		OREGON	118	167	
FAIRBANKS	44	54		MOBILE	389	569		WINNEMUCCA	236	439	
HELIKOPTER	1	1		PEORIA	377	531		NEW HAMPSHIRE			
HOMER	0	0		ROCKFORD	329	441		CONCORD	118	180	
JUNEAU	0	0		SPRINGFIELD	437	664		MT WASHINGTON OBS	0	0	
KENAI	0	0		INDIANA				NEW JERSEY			
KOTAI	0	0		EVANSVILLE	452	835		ATLANTIC CITY	319	503	
MC DONALD	4	7		FORT WAYNE	322	461		ATLANTIC CITY U	334	466	
NOME	0	1		INDIANAPOLIS	346	580		NEWARK	381	645	
ST. PAUL ISLAND	0	0		SOUTH BEND	321	462		TRENTON U	336	546	
TALKEETNA	0	0		IOWA				NEW MEXICO			
UNALASKA	0	0		BURLINGTON	375	519		ALBUQUERQUE	380	993	
YAKUTAT	0	0		DES MOINES	499	705		CLAYTON	303	674	
ARIZONA				DUBUQUE	287	368		NEW YORK			
FLAGSTAFF	48	186		SIEMEN CITY	513	742		ALBANY	157	239	
PHOENIX	551	1651		WATERLOO	331	468		BINGHAMTON	148	227	
TUCSON	345	816		KANSAS				BUFFALO	163	241	
WILLOW	341	2353		CONCORDIA	400	926		NEW YORK U	385	604	
ARKANSAS				RODGE CITY	579	1052		NEW YORK KENNEDY	366	513	
FORT SMITH	527	1065		GOODLAND	416	631		NEW YORK LA GUARDIA	371	571	
LITTLE ROCK	572	1148		TOPEKA	490	822		ROCHESTER	204	319	
CALIFORNIA				WICHITA	608	1006		SYRACUSE	148	245	
BAKERSFIELD	651	1512		KENTUCKY				NORTH CAROLINA			
BISHOP	358	716		COVINGTON	323	519		ASHEVILLE	254	404	
BLUE CANYON	173	189		LEXINGTON	296	529		CAPE HATTERAS R	390	893	
FRESNO	0	0		LOUISVILLE	345	643		CHARLOTTE	375	808	
FRESNO	512	1095		LOUISIANA				GREENSBORO	366	679	
LONG BEACH	284	497		ALEXANDRIA	526	1488		PALEIGH	363	779	
LOS ANGELES	179	247		BATON ROUGE	511	1642		WILMINGTON	443	1150	
LOS ANGELES U	288	636		LAKE CHARLES	534	1611		NORTH DAKOTA			
MT SHASTA R	118	170		NEW ORLEANS	484	1620		BISMARCK	287	348	
OAKLAND	21	32		SHREVEPORT	541	1375		FARGO	281	365	
RED BLUFF	487	977		MAINE				WILLISTON	295	389	
SACRAMENTO	294	542		CARIBOU	38	61		OHIO			
SAN BERNARD	255	456		PORTLAND	121	153		AKRON	222	358	
SAN JOSE	244	284		MARYLAND				CINCINNATI ABBF OB	348	622	
SAN FRANCISCO	4	14		BALTIMORE	361	572		CLEVELAND	231	354	
SANTA MARIA	19	19		MASSACHUSETTS				COLUMBUS	296	495	
STOCKTON	433	846		BLUF HILL OBS R	177	268		DAYTON	331	516	
COLORADO				BOSTON	235	348		MANSFIELD	246	395	
ALAMOSA	13	44		WORCESTER	159	230		TOLDO	243	363	
COLORADO SPRINGS	241	389		MICHIGAN				YOUNGSTOWN	162	272	
DENVER	307	519		ALPENA	118	149		OKLAHOMA			
GRAND JUNCTION	421	819		DETROIT	321	503		OKLAHOMA CITY	553	1098	
DURBO	432	785		DETROIT METRO	237	346		TULSA	641	1238	
CONNECTICUT				FLINT	206	293		OREGON			
BRIDGEPORT	353	514		GRAND RAPIDS	201	271		ASTORIA	6	5	
HARTFORD	282	437		HOUGHTON LAKE	120	168		BURNS	145	261	
DELAWARE				LANSING	208	307		ELGIN	127	187	
WILMINGTON	370	633		MARQUETTE U	162	207		WAPAHAM	224	351	
DIST. OF COLUMBIA				MUSKOGEE	173	214		WEDBURE	272	500	
WASHINGTON DULLES	270	432		SAULT STE MARIE	61	75		PENDLETON	102	163	
WASHINGTON NATIONAL	441	779		MINNESOTA				PORTLAND	78	112	
FLORIDA				DULUTH	115	134		SALF	76	108	
APALACHICOLA	505	1601		INTERNATIONAL FALLS	175	221		PACIFIC AREA			
DAYTONA BEACH	447	1711		MINNEAPOLIS	369	485		GUAM TAGUAC R	437	2923	
DAYTONA BEACH	518	2246		ROCHESTER	302	383		JOHNSTON	487	2935	
JACKSONVILLE	441	1445		ST CLOUD	271	333		KOROR R	517	3574	
KEY WEST	585	2908		MISSISSIPPI				KWAJALEIN	545	3489	
LAKELAND	471	1968		JACKSON	487	1252		MAJUPO	492	3348	
MIAMI	551	2661		MERIDIAN	542	1390		PAGO PAGO	448	3104	
ORLANDO	492	1745		MISSOURI				PONAPE R	464	3328	
ORLANDO	546	1733		COLUMBIA REGIONAL	449	678		TRUK MOEN ISLAND	507	3545	
TALLAHASSEE	492	1461		KANSAS CITY	534	840		WAF	474	2739	
TAMPA	506	2031		ST JOSEPH	515	840		YAP R	494	3358	
WEST PALM BEACH	526	2353		ST LOUIS	463	796		PENNSYLVANIA			
GEORGIA				SPRINGFIELD	453	728		ALLENTOWN	266	408	
ATLANTA	392	873		MONTANA				ERIE	120	189	
AUGUSTA	420	999		BILLINGS	324	485		HARRISBURG	401	690	
COLUMBUS	490	1224		GLASGOW	243	386		PHILADELPHIA	373	631	
MACON	505	1306		GREAT FALLS	253	401		PITTSBURGH	258	356	
ROME	407	616		HAYDEN	260	432		SCRANTON	334	284	
SALAMANCA	448	1366		HELENA	190	292		WILLIAMSPORT	217	317	
				KALISPELL	89	172		RHODE ISLAND			
				MILES CITY	407	596		BLOCK ISLAND	157	189	
				MISSOULA	128	234		PROVIDENCE	242	355	

STORM SUMMARY

JULY 1974

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				# ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	DAMAGE	DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE	
								PROP. ERTY	CROPS			PROP. ERTY	CROPS			PROP. ERTY	CROPS			PROP. ERTY	CROPS			PROP. ERTY	CROPS			PROP. ERTY	CROPS
Alabama	2	2			3							4			5	4													
Alaska	*																												
Arizona	1	1			4			4			17	6		1		4										3	1	6	
Arkansas	1	1		1				4	C		7	5	C	1	3	4										1	1		
California	1																												
Colorado	1	1						4	3	1		4	3	1	1	4												4	3
Connecticut	1	1			3			3	6	1		4		3	1	4													
Delaware																													
Florida	1	4			4							5		2	11	4										1			
Georgia												5	3			5													
Hawaii																										1		4	C
Idaho									4			6				3										1		3	4
Illinois	2	2						4	6			6														1	1		
Indiana								2	2			4	C			4													
Iowa	2	2			4			5	6			6		1		4	4									1		5	5
Kansas								4	6		4	6	4			5													
Kentucky								5	C		1	5	C			5													
Louisiana	4	4			4			1	3			3		1	1	4													
Maine								2	3		20	6	2		2	2	4									1			
Maryland & D.C.								4				5				5													
Massachusetts												5			7	5											3	4	
Michigan	12	3		3	6				C		11	6	C			5										1			
Minnesota	4	4			5			4	5			5	6	5	1	1	4												
Mississippi	1	1			4			3			3	4				4													
Missouri								2				5		1															
Montana								5	5			5	5																
Nebraska	2	2			5			4	5			4	5		1	4	4												
Nevada												5				5													
New Hampshire											1	6				4													
New Jersey	1	1						3						1		4													
New Mexico								1	3			4	2	1	6														
New York	1	1						2			5	2		4	7	2										2		4	
North Carolina												5		1	2													6	6
North Dakota	8	3			5			5	5			5	3	1												1			
Ohio								6	C			4	C	2	4	6													
Oklahoma								4	3			4	3															3	
Oregon														2															
Pacific Area	*																												
Pennsylvania	3	2		3	4			4	5			6	5	2	5	5	2									3	16	6	5
Puerto Rico	*																												
Rhode Island	*																												
South Carolina								3	4			5	4																
South Dakota	2	2			5			4	6			5	6			3	5												
Tennessee											1	5		2	3	4													
Texas	3	3			6			4	5			5		1		2													
Utah	*																												
Vermont												4	C			4	C												
Virginia	1	1			2							3				5													
Virgin Islands	*																												
Washington	*																												
West Virginia												5																	
Wisconsin								4	6			6	3			5										2		5	
Wyoming	2	2			4						3	4																	

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

JULY 1974

Herbert J. Thompson and Raymond J. Haley,
Office of Hydrology

The month of July was notable more for abnormalities of precipitation rather than flooding. Rainfall over most of the central part of the country was much below normal with near drouth conditions reported in many areas and record low monthly totals for July recorded at several stations. As a consequence, there was little new flooding in this area during the month with only stations on the Chariton River in northern Missouri reporting stages in excess of flood stage.

As a contrast, portions of the Pacific Coast Drainage received much above normal rainfall with several stations recording record high monthly totals. However, no flooding resulted from this rainfall.

The most serious flooding occurred at Lake Havasu

City, Arizona, where a flash flood took 3 lives and caused extensive damage. Significant flash and/or urban-type flooding also occurred in New York, Michigan, South Carolina, West Virginia, and New Mexico.

Flooding continued from June along the main stem of the Upper Mississippi and a few tributaries of the Upper Mississippi and Ohio Rivers, most important of which was that along the lower Wabash and the Illinois Rivers.

Hydrologic events of unusual significance or involving loss of life or property damage are discussed in more detail below.

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
GREAT LAKES DRAINAGE			
Northeastern Michigan	Rainfall of 3.5 to 5 inches on the evening of the 3d caused severe urban-type flooding with extensive road and street damage across the northern portion of lower Michigan. Damage in rural Emmet County was \$50,000, with \$85,000 damage in the city of Petosky of which \$60,000 was to streets. Montmorency County reported \$5,000 road damage.	0	140
Maumee River Basin	Only two days with light rainfall occurred, the 4th and 22d, making this the driest July on record with rainfall averaging less than 0.5 inch over the basin.	0	0
ATLANTIC SLOPE DRAINAGE			
Mohawk River Basin	Heavy rain occurred over the basin the night of the 2d-3d with heaviest amounts of up to 5 inches in the Rome-Utica area. Lowland flooding was reported in the Tribes Hill and Cobleskill areas of the Schoharie Creek drainage and along the Mohawk River at Little Falls, N. Y. The Hinkley Reservoir northeast of Utica, N. Y., spilled on the 3d from the heavy runoff.	0	N.A.
Roanoke River Basin	Heavy rainfall over the headwaters of the Roanoke on the 26th-27th caused flash flooding with some residents evacuated at Martinsville, Va. Industrial damage up to \$100,000 was reported at Henry, Va. Nearly 5 inches of rain fell at Randolph and Brookneal, Va.	0	N.A.
Saluda River Basin	Rainfall averaged 6 inches over the basin for the month. Much of this occurred the night of the 7th with nearly 5 inches falling at Newberry, S. C. Flash flooding occurred in the city and county of Newberry from the North Fork of Scott's Creek with minor losses. A crest more than 4 feet over flood stage occurred on the Saluda River at Chappells, S. C., on the 8th.	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

JULY 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
UPPER MISSISSIPPI BASIN			
Upper Mississippi Main Stem	During the latter part of June the main stem of the Mississippi was above flood stage at and below Clinton, Iowa, as a result of heavy flooding along many tributaries in Minnesota, Iowa, and Illinois. Crest stages, most of which occurred in June, generally ranged from about 3 to 7 feet over flood stage. This flooding continued into the early part of July from Keithsburg to Alton, Ill. A steady and rapid recession occurred during July with the stage at Keithsburg falling more than 15 feet from the crest on June 26 to a low on July 22.	0	N.A.
MISSOURI BASIN			
Cheyenne River Basin	Heavy rain occurred on three occasions in the Black Hills area of South Dakota. On the 17th more than 3 inches fell in less than an hour along Rapid Creek but no flooding resulted. On the 18th from 3 to 6 inches fell in the South Central Black Hills with local flooding. Very localized heavy rain fell in the same area on the 22d with no reports of flooding.	0	N.A.
Chariton River	Heavy rainfall on the 3d-4th caused minor flooding along the Chariton River with crest stages up to 2.7 feet over flood stage. Maximum rainfall reported was at Unionville, Mo., with 6.27 inches.	0	N.A.
OHIO BASIN			
Kanawha River Basin	Small stream flooding occurred on the 15th in Gilmore County, W. Va., and around Clendenin in Kanawha County where the observer reported 3.03 inches in 3 hours. There was no major damage. At Charleston, W. Va., it was the driest July in 30 years of record with monthly rainfall less than 40 percent of normal.	0	N.A.
Wabash River Basin	Flooding continued from June during the first few days of July on the lower Embarrass and portions of the lower Wabash River.	0	0
Lower Ohio Basin	During July near drouth conditions prevailed over much of the basin. The monthly total of 0.18 inch at Evansville, Ind., equalled the record low total for July set in 1901 for 77 years of record.		
ARKANSAS BASIN			
Middle Arkansas and Neosho River Basins	This was the driest July on record at Wichita, Kansas. The previous record of 0.10 inch monthly total precipitation occurred in 1916. Several stations in east central Kansas in the Neosho Basin received no precipitation during the month.		
LOWER MISSISSIPPI BASIN			
Lower Mississippi Main Stem	The lower Mississippi River, which was above flood stage at some points during part of June, fell steadily during July. The drop in stage during the month ranged from 25 feet at Natchez, Miss., to 10 feet at New Orleans, La.		

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

JULY 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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ATCHAFALAYA BASIN

Atchafalaya River	The Atchafalaya River fell below flood stage at Morgan City, La., on the 19th. Except for two days in May, the river had been above flood stage at that point since Dec. 13, 1973.		
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WEST GULF OF MEXICO DRAINAGE

Southeast Texas Streams	Rainfall was well below normal during the month over most of the area with most streams well below bankfull and below normal levels in some cases. The Sabine River remained near bankfull below Toledo Bend Reservoir due to releases from the reservoir.		
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Rio Grande Basin	Flash flooding occurred in the mountainous areas near Albuquerque, N. Mex., during the month with 2 lives lost.	2	N.A.
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GULF OF CALIFORNIA DRAINAGE

Lower Colorado River Basin	There were several significant flash flood events in Arizona during the month. The most serious occurred at Lake Havasu City on July 19 with damage estimated at \$2.5 million. Three people were drowned when their stalled car was swept downstream. Rainfall of 3 to 4 inches was unofficially reported in the area.	3	N.A.
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Flash flooding occurred in the Santa Rita mountains on the 1st and 7th with Santa Rita Lodge reporting 3.3 inches of rain on each occasion. Urban flooding was reported in Sierra Vista on the 2d, in Tempe on the 7th, and in North Scottsdale on the 14th. Minor flooding occurred on the San Simon River near Safford on the 15th.

Flooding occurred in Bryce on the 17th with the water level in Peck Wash the highest in over 35 years.

On the 18th flash floods damaged 24 mobile homes near Catalina with urban flooding in Tucson.

On the 20th flood waters from Canyon del Oro stranded 32 families. A rainfall measurement of 4.75 inches was reported in the area.

There were several instances of highway flooding on the 19th, including State Routes 187, 387, and 72 and U. S. 95 south of Parker.

PACIFIC SLOPE DRAINAGE

Russian River Basin	Heavy rainfall of record-breaking proportions occurred on the 7th-8th. Amounts of 3 to 4 inches were recorded at some points in Marin and Sanoma Counties, which is typical of a winter storm. No flooding resulted but temporary summer dams on the Russian River were endangered. The monthly total at Healdsburg, Calif., of 1.73 inches was the greatest July total since records began in 1877. The previous high was 0.85 inch in 1916. The total of 0.62 inch at San Francisco was the highest since records began in 1849. The previous high total was 0.23 inch in 1886.		
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GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

JULY 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
Lower Columbia Basin	Rainfall totals for the month were more than 200 percent of normal over much of the area with record totals for July at Astoria and Portland. However, no flooding resulted. The Columbia River continued over flood stage at Vancouver, Wash., until the 5th. Damage from the June-July flooding on the lower Columbia and Willamette Rivers totaled \$58,350,000. Damage along tributaries of the lower Columbia in Washington were \$1.2 million on the Okanogan, \$150,000 on the Methow, \$95,000 along the Entiat, \$75,000 along the Wenatchee, and \$210,000 along the Yakima River.	0	60,080
ALASKA			
Copper River Basin	The Nelchina Ice Lakes dumped during the first week of July raising Tazlina Lake by almost 3 feet. Flooding occurred along the Nelchina River but there were no reports of damage from this sparsely settled region.	0	0
Kobuk River	On the 28th-29th general rainfall occurred over an area from the Brooks Range south to Bethel. Amounts for 48 hours were in excess of 1 inch. The Kobuk River crested at Kobuk on the 31st covering 50 feet of the runway at the village.	0	0
PUERTO RICO			
Drouth conditions continued during July as rainfall was again below normal although heavier than June. Water service in the San Juan metropolitan area was cut to 12 hours per day as the level in the Loiza River Reservoir continued to fall with a 40 day's supply on hand at the end of the month.			

FLOOD STAGE DATA

River and station	Flood stage	Above flood stages - dates		Crest	
		From-	To-	Stage	Date
	<i>Ft</i>			<i>Ft</i>	
<i>St. Lawrence River</i>					
<i>St. Lawrence, N.Y.</i>					
<i>St. Lawrence, N.Y.</i>					
<i>St. Lawrence, N.Y.</i>					
Mohawk:					
<i>St. Lawrence, N.Y.</i>	15			15.5	
<i>St. Lawrence, N.Y.</i>					
Chappelle, S. C.		8		18.3	
<i>St. Lawrence, N.Y.</i>					
<i>St. Lawrence, N.Y.</i>					
Lithia, Fla.	13	June 30		14.90 13.44	8
Upper Mississippi Basin					
Wapetapinon River:					
<i>St. Lawrence, N.Y.</i>	10	June 10	12	11.6	June 23
Iowa River:					
Iowa City, Iowa	19	May 29	12	A22.05	June 9
<i>St. Lawrence, N.Y.</i>	10	June 10	1	A13.3	June 17
Skunk River:					
Brighton, Iowa	14	June 26	2	14.59	June 30
Illinois River:					
La Salle, Ill.		June 21	1	25.2	June 24
Peoria, Ill.	18	May 19	8	23.8	June 6
Havana, Ill.		May 18	17	23.6	June 28
Beardstown, Ill.	15	May 19	19	26.2	June 29
Meredosia, Ill.		May 19	17	42.8	June 30
Mississippi River:					
Keithsburg, Ill.	12	June 11	1	16.9	June 26
Burlington, Iowa	15	June 19	1	18.5	June 26
Yeokuk, Iowa (Dam 19 TW)	16	June 24	1	18.3	June 27
Gregory Landing, Mo.	15	June 24	3	18.83	June 27
Quincy, Ill.	17	June 24	1	21.1	June 28
Hannibal, Mo.	16	June 24	1	21.31	June 28
Louisiana, Mo.	15	May 18	1	19.19	June 29
Clarksville, Mo. (Dam 24 TW)		May 18	7	31.27	June 2
Winfield, Mo. (Dam 25 TW)	26	May 19	7	32.54	June 2
Crafton, Ill.	18	May 20	1	25.80	June 2
Alton, Ill. (Dam 26 TW)	21	June 28	1	22.42	June 1
Missouri Basin					
Chariton River:					
Chariton, Iowa	15	May 19	1	15.68	June 1
Novinger, Mo.	20	May 19	5	20.95	June 1
Prairie Hill, Mo.	15	May 19	7	17.7	June 6
Ohio Basin					
Clarion:					
Ridgway, Pa.	11	June 30	1	12.0	June 1
Embarrass:					
Lawrenceville, Ill.	11	June 23	1	15.47	June 1
Wabash:					
Vincennes, Ind.	16	June 27	1	18.15	June 29
Mt. Carmel, Ill.	17	June 27	2	17.88	June 1
Lower Mississippi Basin					
Big Black:					
<i>St. Lawrence, N.Y.</i>	12	June 24	1	17.8	June 28
<i>St. Lawrence, N.Y.</i>					
Atchafalaya:					
Morgan City, La.		May 19	19	8.4	June 28-30

RAWINSONDE DATA

Average monthly values

JULY 1974

ALBANY, N. Y. 1000 MB										ALBUQUERQUE, N. MEX. 800 MB										AMARILLO, TEXAS 890 MB										ANCHORAGE, ALASKA 1010 MB										ANNETTE, ALASKA 1013 MB									
Resultant Wind					Resultant Wind					Resultant Wind					Resultant Wind					Resultant Wind																													
Standard Pressure Surface (mb)	Dynamic Height	Temperature	Dew Point	Direction	Speed (mph)	No. of observations	Dynamic Height	Temperature	Dew Point	Direction	Speed (mph)	No. of observations	Dynamic Height	Temperature	Dew Point	Direction	Speed (mph)	No. of observations	Dynamic Height	Temperature	Dew Point	Direction	Speed (mph)	No. of observations	Dynamic Height	Temperature	Dew Point	Direction	Speed (mph)	No. of observations																			
SURFACE	31	86	17.8	15.7	23	1.0	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	45	12.0	8.2	18	2.2	31	37	9.9	7.6	13	1.8																			
950	31	145	17.4	13.8	22	1.3	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	128	12.3	7.3	18	2.8	31	147	10.4	7.8	15	1.8																			
900	31	575	17.1	11.8	27	4.3	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	558	10.5	5.4	18	3.5	31	573	8.3	5.5	17	1.1																			
850	31	1003	14.9	8.9	29	6.9	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	1007	8.3	3.1	19	2.9	31	1018	5.6	2.7	19	1.6																			
800	31	1575	12.0	0.5	30	6.3	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	1571	5.4	1.2	20	1.8	31	1484	2.6	-1.1	19	2.3																			
750	31	2035	9.1	-2.4	30	6.3	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	2035	2.9	-3.2	15	1.3	31	1972	-2	-4.5	20	2.3																			
700	31	2555	-0.8	-8.9	29	7.8	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	2549	-0.8	13.1	17	1.7	31	2487	-2.5	-8.9	20	2.2																			
650	31	3118	-6.4	-16.4	29	9.2	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	3040	-3.2	-10.8	13	1.5	31	3032	-5.7	-13.4	21	2.8																			
600	31	3715	-10.5	-21.5	29	10.8	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	3623	-6.6	-15.9	12	1.8	31	3609	-9.0	-18.7	21	2.9																			
550	31	4352	-15.7	-26.7	28	12.2	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	4245	-10.3	-19.3	10	2.0	31	4224	-12.9	-24.0	20	3.3																			
500	31	5035	-19.6	-30.6	28	13.2	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	4905	-14.8	-22.9	10	1.9	31	4871	-17.3	-28.3	20	3.5																			
450	31	5771	-21.2	-26.1	28	13.0	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	5624	-19.7	-28.8	10	2.0	31	5590	-22.2	-33.1	21	4.3																			
400	31	6509	-17.4	-31.9	29	13.6	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	6398	-25.1	-33.4	11	3.0	31	6356	-27.6	-37.4	21	6.0																			
350	31	7244	-30.3	-37.2	29	13.4	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	7243	-30.1	-40.1	11	4.1	31	7193	-33.9	-44.0	21	7.3																			
300	31	7948	-40.5	-43.6	28	14.8	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	8177	-38.0	-44.0	11	4.6	31	8118	-40.8	-45.8	21	8.2																			
250	31	8679	-48.8	-48.1	28	14.5	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	8924	-46.0	-44.0	11	5.4	31	8845	-47.7	-47.7	21	9.6																			
200	31	10710	-56.8	-56.8	28	17.6	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	10441	-54.1	-54.1	11	3.5	31	10343	-51.3	-51.3	22	9.1																			
150	31	12155	-58.6	-58.6	28	17.6	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	11840	-50.5	-50.5	05	1.5	31	11804	-47.7	-47.7	23	6.6																			
100	31	13002	-57.8	-57.8	28	17.1	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	12713	-49.3	-49.3	03	1.2	31	12687	-47.5	-47.5	22	6.1																			
50	31	13976	-57.9	-57.9	28	14.7	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	13725	-49.0	-49.0	04	1.9	31	13706	-47.8	-47.8	22	5.3																			
10	31	15125	-58.8	-58.8	28	12.0	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	14923	-48.5	-48.5	00	1.0	31	14907	-48.5	-48.5	22	4.0																			
5	31	16526	-58.9	-58.9	28	7.4	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	16393	-48.2	-48.2	00	1.3	31	16373	-49.1	-49.1	21	3.3																			
0	31	17930	-58.9	-58.9	35	1.8	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	17863	-47.9	-47.9	10	1.7	31	17837	-46.7	-46.7	19	2.5																			
70	31	18776	-58.1	-58.1	06	3.1	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	18746	-47.7	-47.7	10	2.3	31	18712	-46.6	-46.6	15	1.8																			
40	31	19759	-54.7	-54.7	39	3.9	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	19760	-47.2	-47.2	09	2.8	31	19722	-49.5	-49.5	12	2.5																			
50	31	18938	-52.9	-52.9	39	6.2	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	20568	-46.7	-46.7	09	10.2	31	20568	-46.7	-46.7	12	11.3																			
60	31	22376	-48.8	-48.8	39	3.8	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	22367	-46.4	-46.4	09	12.5	31	22367	-46.4	-46.4	10	13.6																			
70	31	24605	-48.2	-48.2	39	10.4	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	24360	-46.5	-46.5	09	6.4	31	24287	-46.7	-46.7	09	5.9																			
80	31	25472	-46.8	-46.8	09	12.1	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	25385	-44.2	-44.2	09	7.0	31	25303	-45.2	-45.2	09	6.6																			
90	31	26498	-46.5	-46.5	09	13.2	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	27088	-42.3	-42.3	09	7.3	31	26997	-43.5	-43.5	09	8.0																			
10	31	28495	-41.7	-41.7	09	16.2	31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	29043	-39.4	-39.4	09	8.6	31	28943	-40.3	-40.3	08	8.8																			
5	31						31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	31846	-34.5	-34.5	09	10.9	31	31742	-35.5	-35.5	09	12.4																			
0	31						31	1619	18.9	7.4	07	1.4	31	10995	2.0	12.1	19	3.0	31	34239	-30.1	-30.1	09	14.0	31	34256	-31.4	-31.4	09																				

ATHENS, GEORGIA 980 MB										BARROW, ALASKA 1013 MB										BARTER IS., ALASKA 1012 MB										BETHEL, ALASKA 1009 MB										BISMARCK, N. DAK. 955 MB									
Resultant Wind					Resultant Wind					Resultant Wind					Resultant Wind					Resultant Wind																													
Standard Pressure Surface (mb)	Dynamic Height	Temperature	Dew Point	Direction	Speed (mph)	No. of observations	Dynamic Height	Temperature	Dew Point	Direction	Speed (mph)	No. of observations	Dynamic Height	Temperature	Dew Point	Direction	Speed (mph)	No. of observations	Dynamic Height	Temperature	Dew Point	Direction	Speed (mph)	No. of observations	Dynamic Height	Temperature	Dew Point	Direction	Speed (mph)	No. of observations																			
SURFACE	31	246	20.4	19.2	31	4.4	31	8	1.9	1.0	12	7.3	31	15	2.1	1.5	10	1.4	31	39	9.9	8.0	23	2.3	31	503	15.6	11.9	04	1.8																			
950	31	540	21.6	18.0	28	1.4	31	115	3.7	1.3	13	1.3	31	135	3.9	2.3	09	1.4	31	542	9.4	6.9	22	4.0	25	563	17.4	12.9	05	1.6																			
900	31	1000	19.4	15.0	28	1.7	31	975	3.8	-3.1	25	1.3	31	977	6.3	-1.26	9	9.31	989	6.9	4.9	22	3.9	31	1012	20.5	8.6	07	1.6																				
850	31	1204	16.2	11.7	28	1.8	31	1438	1.7	-5.3	24	2.8	31	1444	4.0	-2.4	26	2.53	1456	5.0	-5.21	4.2	4.2	31	1504	18.5	5.3	29	1.2																				
800	31	2084	13.4	8.1	28	2.1	31	1925	-3.3	-8.9	25	2.8	31	1935	1.4	-4.3	26	3.6	1948	2.1	-3.7	20	3.8	31	2021	15.6	1.8	28	2.6																				
750	31	2605	10.2	4.1	28	2.4	31	2																																									

Average monthly values

Average monthly values

GREAT FALLS, MONT. 849 MB										GREEN BAY, WIS. 99. MB										GREENSBORO, N. C. 98 MB										GUADALUPE IS., MEXICO 1012 MB														
Resultant Wind										Resultant Wind										Resultant Wind										Resultant Wind														
Surface	No. of observations	Direction	Speed (m.p.h.)	Dynamic height	Temp.	Dew Point	Direction	Speed (m.p.h.)	No. of observations	Direction	Speed (m.p.h.)	Dynamic height	Temp.	Dew Point	Direction	Speed (m.p.h.)	No. of observations	Direction	Speed (m.p.h.)	Dynamic height	Temp.	Dew Point	Direction	Speed (m.p.h.)	No. of observations	Direction	Speed (m.p.h.)	Dynamic height	Temp.	Dew Point	Direction	Speed (m.p.h.)	No. of observations	Direction	Speed (m.p.h.)	Dynamic height	Temp.	Dew Point	Direction	Speed (m.p.h.)				
1000	31	100	10.0	10.0	10.0	10.0	10.0	10.0	31	100	10.0	10.0	10.0	10.0	10.0	10.0	31	100	10.0	10.0	10.0	10.0	10.0	10.0	31	100	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0		
950	31	100	10.0	10.0	10.0	10.0	10.0	10.0	31	100	10.0	10.0	10.0	10.0	10.0	10.0	31	100	10.0	10.0	10.0	10.0	10.0	10.0	31	100	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
900	31	100	10.0	10.0	10.0	10.0	10.0	10.0	31	100	10.0	10.0	10.0	10.0	10.0	10.0	31	100	10.0	10.0	10.0	10.0	10.0	10.0	31	100	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
850	31	100	10.0	10.0	10.0	10.0	10.0	10.0	31	100	10.0	10.0	10.0	10.0	10.0	10.0	31	100	10.0	10.0	10.0	10.0	10.0	10.0	31	100	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
800	31	100	10.0	10.0	10.0	10.0	10.0	10.0	31	100	10.0	10.0	10.0	10.0	10.0	10.0	31	100	10.0	10.0	10.0	10.0	10.0	10.0	31	100	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
750	31	100	10.0	10.0	10.0	10.0	10.0	10.0	31	100	10.0	10.0	10.0	10.0	10.0	10.0	31	100	10.0	10.0	10.0	10.0	10.0	10.0	31	100	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
700	31	100	10.0	10.0	10.0	10.0	10.0	10.0	31	100	10.0	10.0	10.0	10.0	10.0	10.0	31	100	10.0	10.0	10.0	10.0	10.0	10.0	31	100	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
650	31	100	10.0	10.0	10.0	10.0	10.0	10.0	31	100	10.0	10.0	10.0	10.0	10.0	10.0	31	100	10.0	10.0	10.0																							

Average monthly value

2

Average monthly values

[illegible]

Average monthly values

[illegible]

RAWINSONDE DATA

Average monthly values

JULY 1974

WASHINGTON DULLES INT. AP 1007 MB										WAYCROSS, GA. 1012 MB										WINNEMUKA, NEV. 869 MB										WINSLOW, ARIZ. 853 MB										YAKUTAT, ALASKA 1015 MB									
Resultant Wind										Resultant Wind										Resultant Wind										Resultant Wind										Resultant Wind									
Standard pressure surface (in)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed (m.p.h.)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed (m.p.h.)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed (m.p.h.)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed (m.p.h.)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed (m.p.h.)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed (m.p.h.)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed (m.p.h.)							
SURFACE	31	85	18.1	14.9	28	4.2	31	44	21.6	20.6	20	1.6	31	1312	13.9	-1.2	20	4	31	12487	18.2	8.0	17	1.7	31	12	9.1	8.7	08	1.9	31	12	9.1	8.7	08	1.9	31	12	9.1	8.7	08	1.9							
1000	31	145	19.9	15.6	25	4.3	31	145	22.5	20.5	23	1.3	31	145	22.5	20.5	23	1.3	31	145	22.5	20.5	23	1.3	31	145	22.5	20.5	23	1.3	31	145	22.5	20.5	23	1.3	31	145	22.5	20.5	23	1.3	31	145	22.5	20.5	23	1.3	
950	31	588	20.4	12.4	3	2.4	31	593	22.3	16.9	26	2.5	31	593	22.3	16.9	26	2.5	31	593	22.3	16.9	26	2.5	31	593	22.3	16.9	26	2.5	31	593	22.3	16.9	26	2.5	31	593	22.3	16.9	26	2.5	31	593	22.3	16.9	26	2.5	
900	31	1053	18.1	9.6	31	3.4	31	1062	19.5	14.8	25	1.7	31	1062	19.5	14.8	25	1.7	31	1062	19.5	14.8	25	1.7	31	1062	19.5	14.8	25	1.7	31	1062	19.5	14.8	25	1.7	31	1062	19.5	14.8	25	1.7	31	1062	19.5	14.8	25	1.7	
850	31	1551	15.1	5.5	30	3.9	31	1553	16.3	12.3	25	1.1	31	1503	20.2	2.1	29	1.8	31	1526	19.4	8.4	18	1.8	31	14777	3.7	-2.3	18	1.7	31	14777	3.7	-2.3	18	1.7	31	14777	3.7	-2.3	18	1.7	31	14777	3.7	-2.3	18	1.7	
800	31	2051	11.7	1.1	24	4.9	31	2067	13.1	9.4	27	1.9	31	2024	17.7	-2.2	28	1.8	31	2045	19.5	5.7	24	3.0	31	1968	1.8	-6.4	23	1.6	31	1968	1.8	-6.4	23	1.6	31	1968	1.8	-6.4	23	1.6	31	1968	1.8	-6.4	23	1.6	
750	31	2589	8.9	-4.2	30	5.6	31	2608	10.3	3.6	26	1.1	31	2572	14.1	-2.9	25	2.3	31	2597	16.1	2.3	24	3.2	31	2484	-1.1	-9.7	14	1.2	31	2484	-1.1	-9.7	14	1.2	31	2484	-1.1	-9.7	14	1.2	31	2484	-1.1	-9.7	14	1.2	
700	31	3157	5.9	-7.8	30	6.1	31	3180	7.2	-1.5	27	1.5	31	3149	9.9	-5.7	23	4.5	31	3179	11.9	-1.1	23	2.4	31	3033	-4.5	-11.4	05	1.7	31	3033	-4.5	-11.4	05	1.7	31	3033	-4.5	-11.4	05	1.7	31	3033	-4.5	-11.4	05	1.7	
650	31	3760	2.7	-14.2	29	6.8	31	3786	4.0	-5.7	29	1.6	31	3760	5.3	-8.3	21	7.5	31	3795	7.3	-3.4	21	1.9	31	3613	-7.6	-15.9	06	1.4	31	3613	-7.6	-15.9	06	1.4	31	3613	-7.6	-15.9	06	1.4	31	3613	-7.6	-15.9	06	1.4	
600	31	4433	-1.0	-18.0	29	7.1	31	4433	-5.1	-10.3	27	1.7	31	4407	1.1	-10.3	22	10.0	31	4448	2.2	-6.1	18	2.1	31	4232	-11.2	-21.6	06	2.4	31	4232	-11.2	-21.6	06	2.4	31	4232	-11.2	-21.6	06	2.4	31	4232	-11.2	-21.6	06	2.4	
550	31	5092	-5.2	-20.8	29	7.8	31	5127	-3.4	-14.0	28	1.9	31	5098	-5.1	-15.4	27	10.6	31	5144	-3.3	-10.3	19	2.1	31	4895	-15.4	-26.5	06	2.5	31	4895	-15.4	-26.5	06	2.5	31	4895	-15.4	-26.5	06	2.5	31	4895	-15.4	-26.5	06	2.5	
500	31	5834	-10.1	-25.3	29	8.2	31	5875	-7.7	-20.2	28	1.3	31	5839	-10.4	-22.5	23	10.2	31	5891	-8.7	-16.5	20	2.4	31	5608	-20.1	-30.2	08	2.7	31	5608	-20.1	-30.2	08	2.7	31	5608	-20.1	-30.2	08	2.7	31	5608	-20.1	-30.2	08	2.7	
450	31	6523	-15.4	-31.9	29	8.9	31	6587	-12.9	-26.1	29	1.3	31	6540	-16.0	-29.4	23	11.0	31	6700	-13.6	-24.0	24	2.6	31	6381	-25.7	-35.9	08	3.6	31	6381	-25.7	-35.9	08	3.6	31	6381	-25.7	-35.9	08	3.6	31	6381	-25.7	-35.9	08	3.6	
400	31	7516	-21.6	-34.8	29	9.9	31	7574	-18.9	-31.3	26	1.5	31	7515	-22.6	-36.0	24	11.9	31	7587	-19.3	-30.8	24	3.4	31	7223	-32.2	-42.6	06	4.6	31	7223	-32.2	-42.6	06	4.6	31	7223	-32.2	-42.6	06	4.6	31	7223	-32.2	-42.6	06	4.6	
350	31	8488	-28.7	-40.7	29	10.7	31	8558	-25.9	-37.7	27	2.2	31	8483	-29.9	-41.6	23	14.0	31	8568	-26.4	-38.4	24	4.0	31	8155	-39.3	-48.9	06	5.3	31	8155	-39.3	-48.9	06	5.3	31	8155	-39.3	-48.9	06	5.3	31	8155	-39.3	-48.9	06	5.3	
300	31	9567	-37.2	-47.8	30	12.7	31	9653	-34.3	-46.5	30	2.6	31	9561	-37.9	-49.5	23	16.0	31	9661	-34.6	-46.0	24	5.3	31	9190	-47.3	07	7.2	31	9190	-47.3	07	7.2	31	9190	-47.3	07	7.2	31	9190	-47.3	07	7.2	31	9190	-47.3	07	7.2
250	31	10802	-46.7		31	13.8	31	10902	-44.4		28	4.2	31	10794	-46.6		23	20.1	31	10910	-44.4		23	7.2	31	10376	-53.8	07	7.2	31	10376	-53.8	07	7.2	31	10376	-53.8	07	7.2	31	10376	-53.8	07	7.2	31	10376	-53.8	07	7.2
200	31	12249	-56.5		31	15.0	31	12361	-55.7		31	4.5	31	12245	-54.9		23	22.6	31	12369	-55.2		24	8.9	31	11819	-50.1	07	3.4	31	11819	-50.1	07	3.4	31	11819	-50.1	07	3.4	31	11819	-50.1	07	3.4	31	11819	-50.1	07	3.4
175	31	13088	-60.3		31	13.1	31	13203	-61.5		31	4.0	31	13092	-58.1		23	21.6	31	13210	-60.4		24	9.7	31	12695	-48.4	07	2.0	31	12695	-48.4	07	2.0	31	12695	-48.4	07	2.0	31	12695	-48.4	07	2.0	31	12695	-48.4	07	2.0
150	31	14043	-62.5		31	11.9	31	14146	-66.7		33	3.9	31	14055	-61.7		23	18.9	31	14159	-65.8		25	8.9	31	13711	-48.0	10	1.6	31	13711	-48.0	10	1.6	31	13711	-48.0	10	1.6	31	13711	-48.0	10	1.6	31	13711	-48.0	10	1.6
125	31	15166	-63.5		31	8.5	31	15240	-69.2		31	2.9	31	15179	-63.5		24	12.7	31	15256	-69.7		25	4.1	31	14913	-48.2	12	1.6	31	14913	-48.2	12	1.6	31	14913	-48.2	12	1.6	31	14913	-48.2	12	1.6	31	14913	-48.2	12	1.6
100	31	16535	-63.0		31	4.1	31	16577	-67.8		05	3.1	31	16544	-63.3		17	6.9	31	16579	-70.9		17	2.2	31	16385	-48.2	13	1.3	31	16385	-48.2	13	1.3	31	16385	-48.2	13	1.3	31	16385	-48.2	13	1.3	31	16385	-48.2	13	1.3
80	31	17916	-60.7		02	2.5	31	17930	-64.8		07	8.0	31	17921	-61.7		17	3.0	31	17914	-66.6		10	3.4	31	17856	-48.1	13	2.0	31	17856	-48.1	13	2.0	31	17856	-48.1	13	2.0	31	17856	-48.1	13	2.0	31	17856	-48.1	13	2.0
70	31	18781	-58.7		26	3.7	31	18750	-62.5		07	7.9	31	18753	-59.4		14	3.1	31	18727	-65.2		10	5.6	31	18737	-47.9	12	2.2	31	18737	-47.9	12	2.2	31	18737	-47.9	12	2.2	31	18737	-47.9	12	2.2	31	18737	-47.9	12	2.2
60	31	19724	-56.9		08	5.4	31	19708	-59.7		08	10.8	31	19724	-57.0		10	3.9	31	19683	-60.0		10	7.6	31	19755	-47.7	11	2.8	31	19755	-47.7	11	2.8	31	19755	-47.7	11	2.8	31	19755	-47.7	11	2.8	31	19755	-47.7	11	2.8
50	31	20885	-54.6		09	7.6	31	20857	-56.2		09	13.1	31	20885	-54.6		10	5.7	31	20829	-57.5		09	10.2	31	20961	-47.6	10	3.7	31	20961	-47.6	10	3.7	31	20961	-47.6	10	3.7	31	20961	-47.6	10	3.7	31	20961	-47.6	10	3.7
40	31	22318	-52.8		09	9.9	31	22283	-53.8		09	13.9	31	22323	-52.6		09	8.2	31	22248	-54.7		09	11.9	31	22437	-47.2	10	4.6	31	22437	-47.2	10	4.6	31	22437	-47.2	10	4.6	31	22437	-47.2	10	4.6	31	22437	-47.2	10	4.6
30	31	24186	-49.8		09	11.6	31	24146	-50.3		09	14.6	31	24192	-50.1		09	11.0	31	24104	-51.4		09	12.8	31	24347	-46.2	09	6.5	31	24347	-46.2	09	6.5	31	24347	-46.2	09	6.5	31	24347	-46							

SOLAR RADIATION INTENSITIES

Tabulated in langley's per minute on a surface normal to the direction of the sun.

Date	Sun's zenith distance								
	A M				*	P M			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
1				(.94)	(1.11)				
2				(1.09)	(1.17)				
3				1.06	1.05				
4				1.04	1.29				
5				1.03	1.28				
6				1.06	1.33				
7				1.07	1.35				
8				1.04	1.10				
9				(1.12)					
10				(1.09)	(1.11)				
11				1.02	1.24				
12				1.01	1.23				
13				1.06	1.28				
14				1.14	1.35				
15				1.09	1.21				
16	.70			1.04	1.30				
17	.57			.98	1.24				
18				1.35	1.29				
19				1.13	1.29				
20				1.07	1.28				
21				1.30	1.11				
22				1.05	1.27				
23				1.26	1.26				
24				1.05	1.27				
25				1.29	1.29				

Date	Sun's zenith distance								
	A M				*	P M			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
1				1.14	1.55	1.39			
2				1.15	1.55	1.40			
3				1.16	1.56	1.39			
4				1.18	1.55	1.41			
5				1.18	1.59	1.45			
6				1.20	1.59	1.44			
7				1.20	1.59	1.44			
8				1.22	1.59	1.44			
9				1.19	1.59	1.44			
10				1.17	1.59	1.44			
11				1.19	1.59	1.44			
12				1.20	1.59	1.44			
13				1.19	1.59	1.44			
14				1.20	1.59	1.44			
15				1.21	1.59	1.44			
16				1.22	1.59	1.44			
17				1.18	1.59	1.44			
18				1.17	1.59	1.44			
19				1.12	1.59	1.44			
20				1.12	1.59	1.44			
21				1.12	1.59	1.44			
22				1.12	1.59	1.44			
23				1.12	1.59	1.44			
24				1.12	1.59	1.44			
25				1.12	1.59	1.44			
26				1.12	1.59	1.44			
27				1.12	1.59	1.44			
28				1.12	1.59	1.44			
29				1.12	1.59	1.44			
30				1.12	1.59	1.44			

Date	Sun's zenith distance								
	A M				*	P M			
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19				1.12	1.59	1.44			
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21				1.12	1.59	1.44			
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23				1.12	1.59	1.44			
24				1.12	1.59	1.44			
25				1.12	1.59	1.44			
26				1.12	1.59	1.44			
27				1.12	1.59	1.44			
28				1.12	1.59	1.44			
29				1.12	1.59	1.44			
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Date	Sun's zenith distance								
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12				1.20	1.59	1.44			
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14				1.20	1.59	1.44			
15				1.21	1.59	1.44			
16				1.22	1.59	1.44			
17				1.18	1.59	1.44			
18				1.17	1.59	1.44			
19				1.12	1.59	1.44			
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23				1.12	1.59	1.44			
24				1.12	1.59	1.44			
25				1.12	1.59	1.44			
26				1.12	1.59	1.44			
27				1.12	1.59	1.44			
28				1.12	1.59	1.44			
29				1.12	1.59	1.44			
30				1.12	1.59	1.44			

NET RADIATION

Net radiation in langbeys per day (8 a.m. to 8 a.m.) at Palmer, Alaska.

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langbeys	260	280	288	182	12	102	104	276	169	264	152	100	100	161	137	193	206	220	113	114	91	130	228	187	103	238	201	213	206	11	158	186

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average (8 a.m. to 8 a.m.) at Palmer, Alaska.

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langbeys																																

TOTAL OZONE DATA

These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code 8 2 2 2 defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units: Milli-atmos. cms.

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.

NO DATA RECEIVED

REFERENCE NOTES

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION - BY DATE. In some cases the actual occurrence of the extreme may be indicated by the date of observation. In some cases the actual occurrence of the extreme may be indicated by the date of observation.

- And also on an earlier date or dates.
- D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch of water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA - METRIC UNITS: Data from airport unless otherwise specified.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

- B Number of days maximum 21.1°C. or above for Alaskan Stations.
- Y Peak Gust.
- And also on an earlier date or dates.
- U Indicates Urban site.
- R Indicates Rural site.
- Ø Station pressures apply to elevations shown in the "Elevations" table of the annual issue of this publication.

Conversion formulae to English Units are as follows:

1 foot = 0.3048 meters
 °F. = $\frac{9}{5} \times ^\circ\text{C} + 32$
 1 inch = 25.4 millimeters
 1 mile per hour = 0.447 meters per second

HEATING DEGREE DAYS: Data from airport unless otherwise specified.

- U Indicates Urban site.
- R Indicates Rural site.

COOLING DEGREE DAYS: Data from airport unless otherwise specified.

- U Indicates Urban site.
- R Indicates Rural site.

STORM SUMMARY:

- Includes crop damage.
- C Crop damage.
- * No occurrence of storms or unusual weather phenomena reported.
- @ Includes heavy sleet storm.
- # Freezing drizzle and freezing rain, commonly known as glaze.
- Ø For breakdown of "All Others," and for detailed listing of other storms, see the Environmental Data Service, NOAA, monthly publication STORM DATA.
- ± No Storm Data Report received for this State.
- <> Report Incomplete.
- † Storm damages are placed in categories varying from 1 to 9 as follows:
 - 1 Less than \$50
 - 2 \$50 to \$500
 - 3 \$500 to \$5,000
 - 4 \$5,000 to \$50,000
 - 5 \$50,000 to \$500,000
 - 6 \$500,000 to \$5 Million
 - 7 \$5 Million to \$50 Million
 - 8 \$50 Million to \$500 Million
 - 9 \$500 Million to \$5 Billion.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS:

- 1/ Flooding continued at the end of the month.
- NA Not available.

FLOOD STAGE DATA:

- # Highest Stage Observed
- 1 Continued at end of month
- Highest Stage of Record
- E Estimated
- P Provisional (Flood Stage)
- ! Unknown

RAWINSONDE DATA (Average Monthly Values):

All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygrometers. These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

- * Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.
- Observations for these stations are scheduled at 0000 G.C.T.
- Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

REFERENCE NOTES

SOLAR RADIATION INTENSITIES: Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

()	Clouds Present	DM	Moderate Dust	HM	Moderate Haze	KS	Slight Smoke
*	Values corresponding to true solar noon	DS	Slight Dust	HS	Slight Haze	M	Moderate Haze-indeter-
BD	Blowing Dust	F	Fog	I	Intense Haze-indeterminable		minable
BN	Blowing Sand	GF	Ground Fog	K	Smoke	N	Sand
D	Dust	H	Haze	KI	Intense Smoke	S	Slight Haze-indeter-
DI	Intense Dust	HI	Intense Haze	KM	Moderate Smoke		minable

NET RADIATION: The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the NOAA, National Weather Service.

SOLAR ULTRA-VIOLET RADIATION DATA: These data are from an U-V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. This instrument has not been checked by the NOAA, National Weather Service.

TOTAL OZONE DATA: The spectrophotometer measures the total amount of ozone in the atmosphere, i.e., the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded $\rho \rho \rho$) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e.g., 350 milli-atmos ozone implies an ozone layer 0.350 centimeter thick. The code λs designates the type of measurement made.

DESCRIPTION OF CHARTS

CHART I. A. NORMAL DAILY AVERAGE TEMPERATURE ($^{\circ}$ F. 1941-70) FOR MONTH. B. TEMPERATURE DEPARTURE FROM 30-YEAR MEAN ($^{\circ}$ F 1941-70) FOR MONTH. Chart I-A is reproduced from monthly normals maps prepared at the National Climatic Center. Chart I-B is a reproduction of monthly chart appearing in "Weekly Weather and Crop Bulletin," a publication of Environmental Data Service.

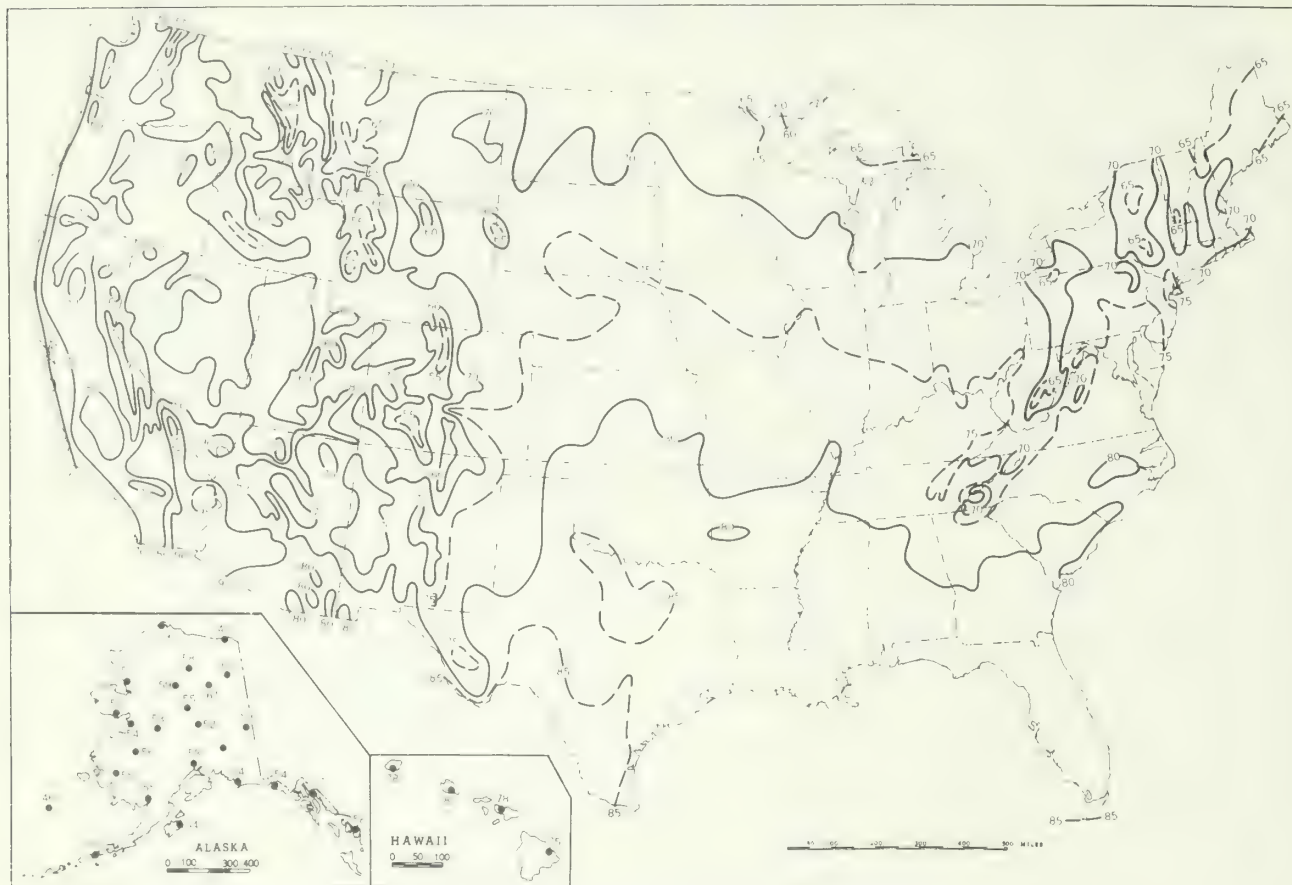
CHART II. A. TOTAL PRECIPITATION. Chart II. A. is a reproduction of monthly chart appearing in "Weekly Weather and Crop Bulletin."

CHART II. B. PERCENTAGE OF NORMAL PRECIPITATION. Chart II. B. is a reproduction of monthly chart appearing in "Weekly Weather and Crop Bulletin."

CHART III. TRACKS OF CENTERS OF ANTICYCLONES AT SEA LEVEL.

CHART IV. TRACKS OF CENTERS OF CYCLONES AT SEA LEVEL. Centers which can be identified for 24 hours or more are tracked in these charts. Semi-permanent features such as the Great Basin and Pacific Highs and Colorado and Mexico Lows are not shown. The 7:00 a.m., e.s.t., positions are shown by open circles, with the intermediate positions at 6-hour intervals shown by solid dots. The date is given above the circle and the central pressure to whole millibars below. A dashed track indicates a regeneration rather than actual movement to the next position. Solid squares indicate position of stationary center for period shown beside it.

Chart 1. A. Normal Daily Average Temperature (°F. 1941-70), July.



B. Temperature Departure from 30 - Year Mean (°F 1941-70), July 1974

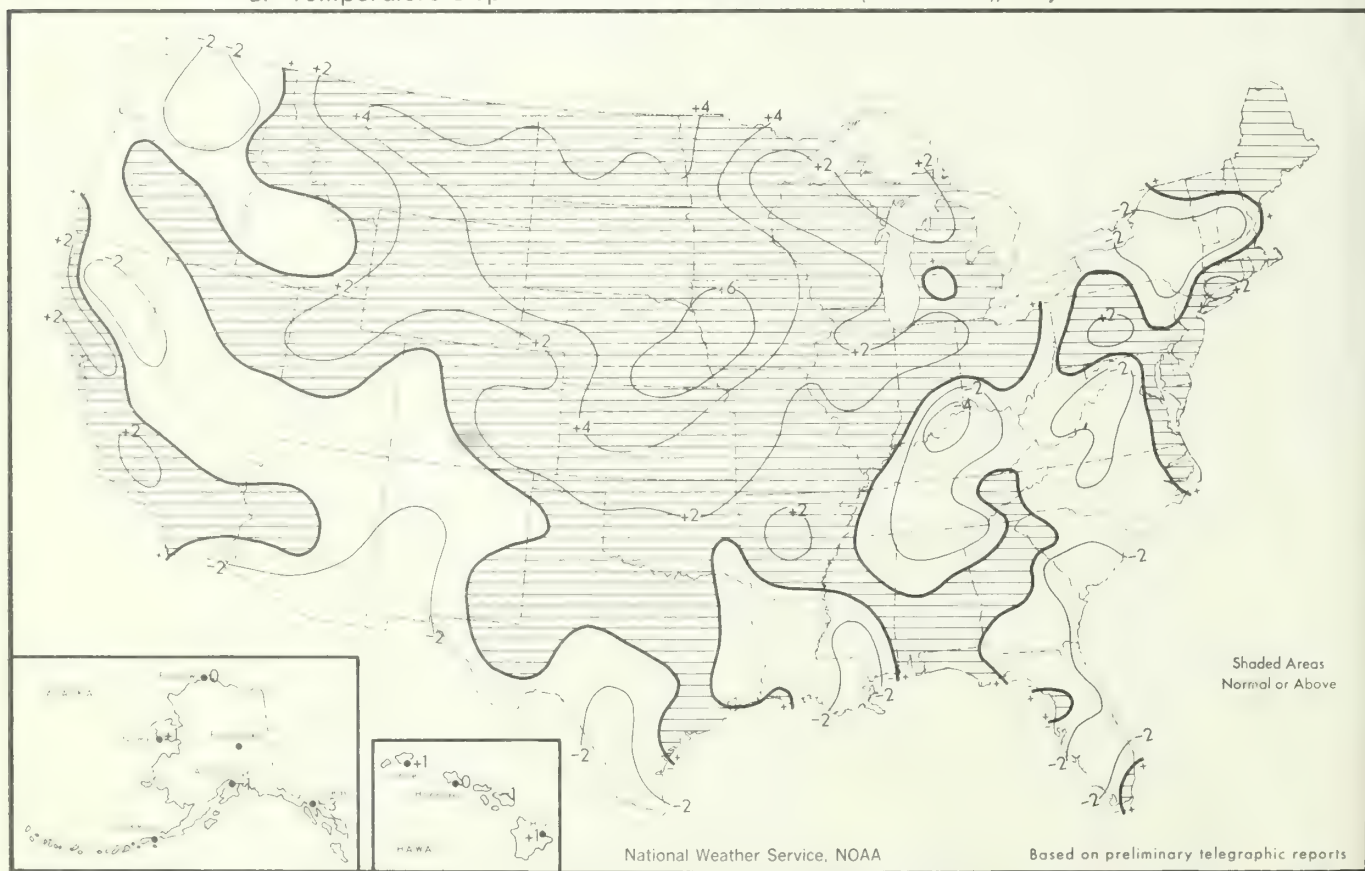
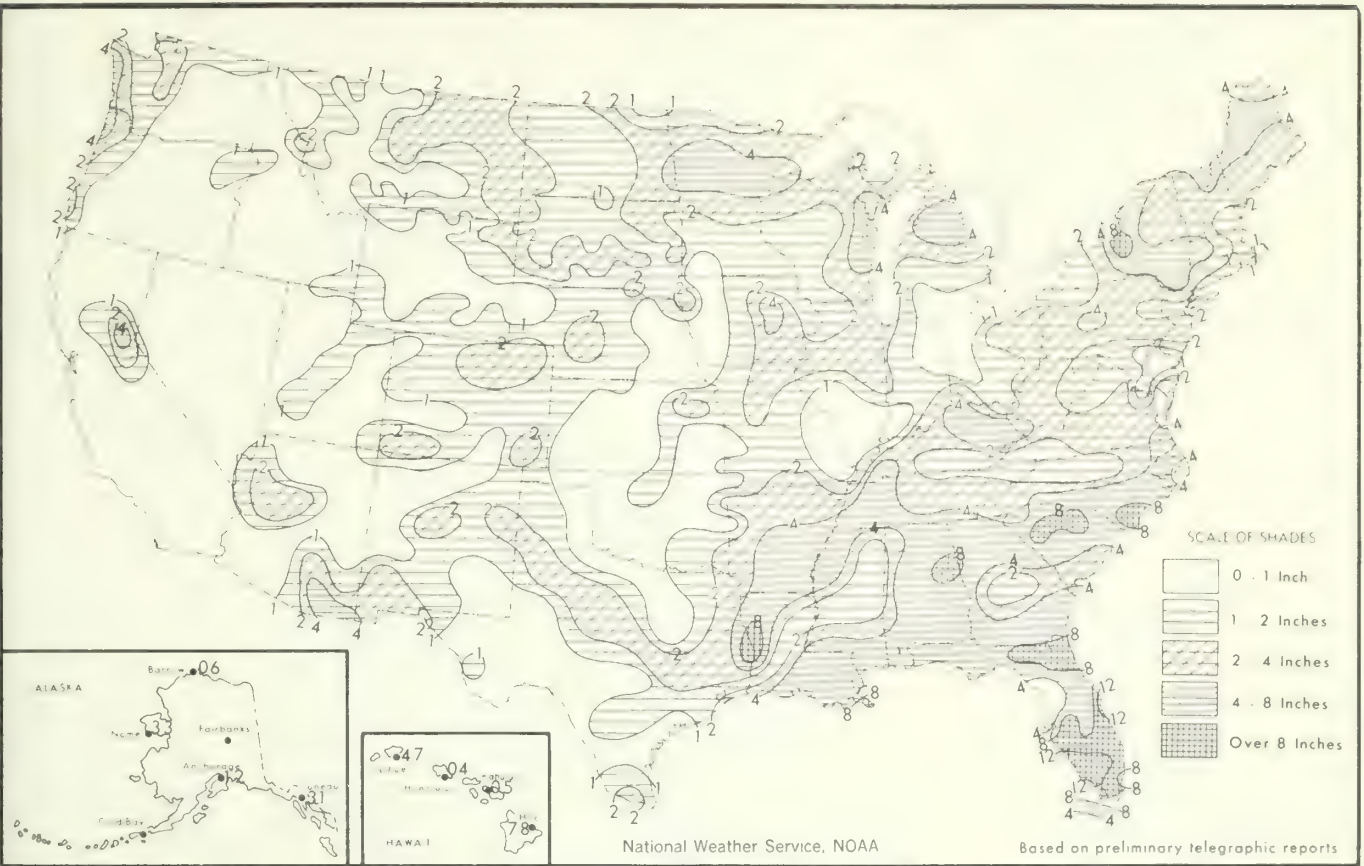


Chart II. A. Total Precipitation (Inches), July 1974



B. Percentage of Normal Precipitation, July 1974

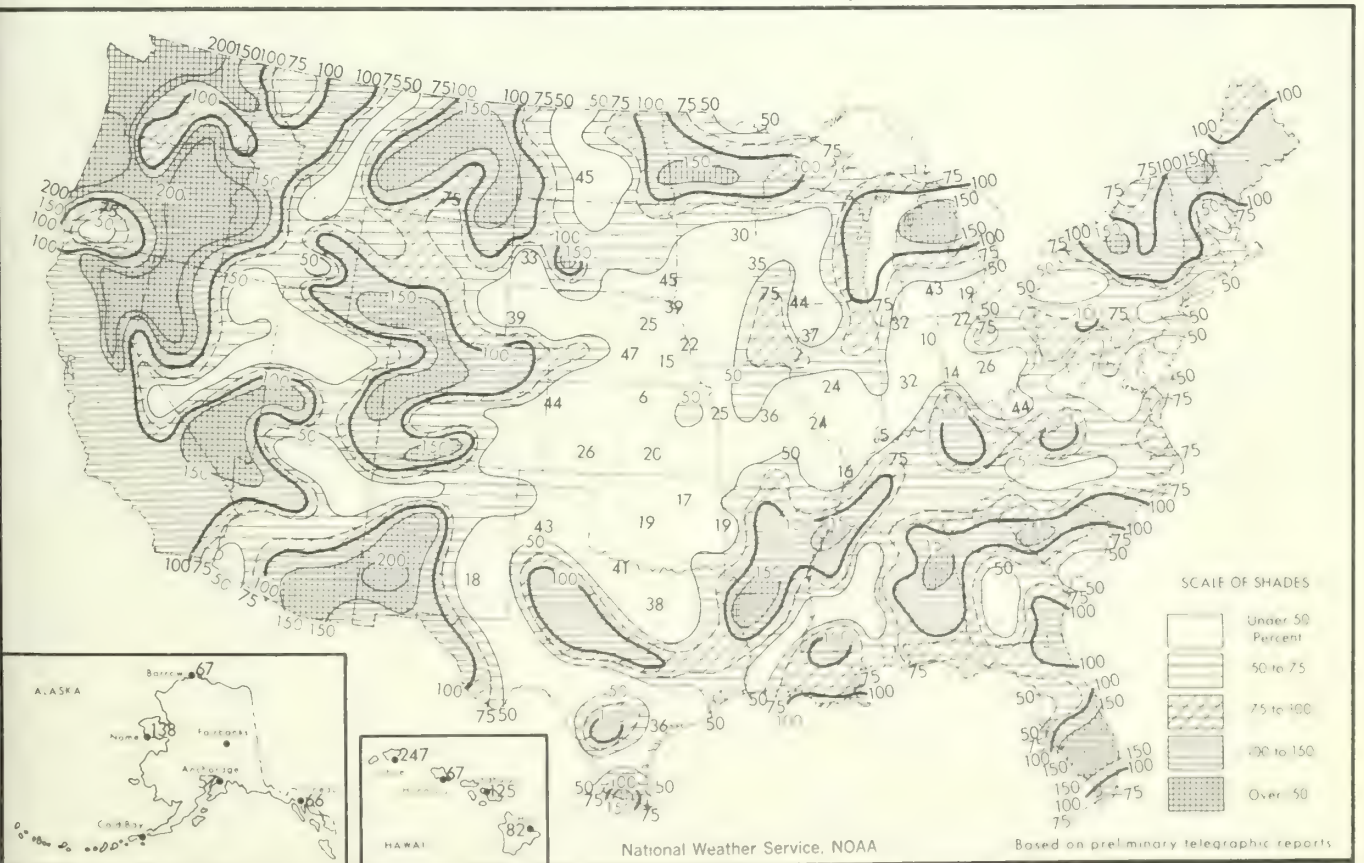
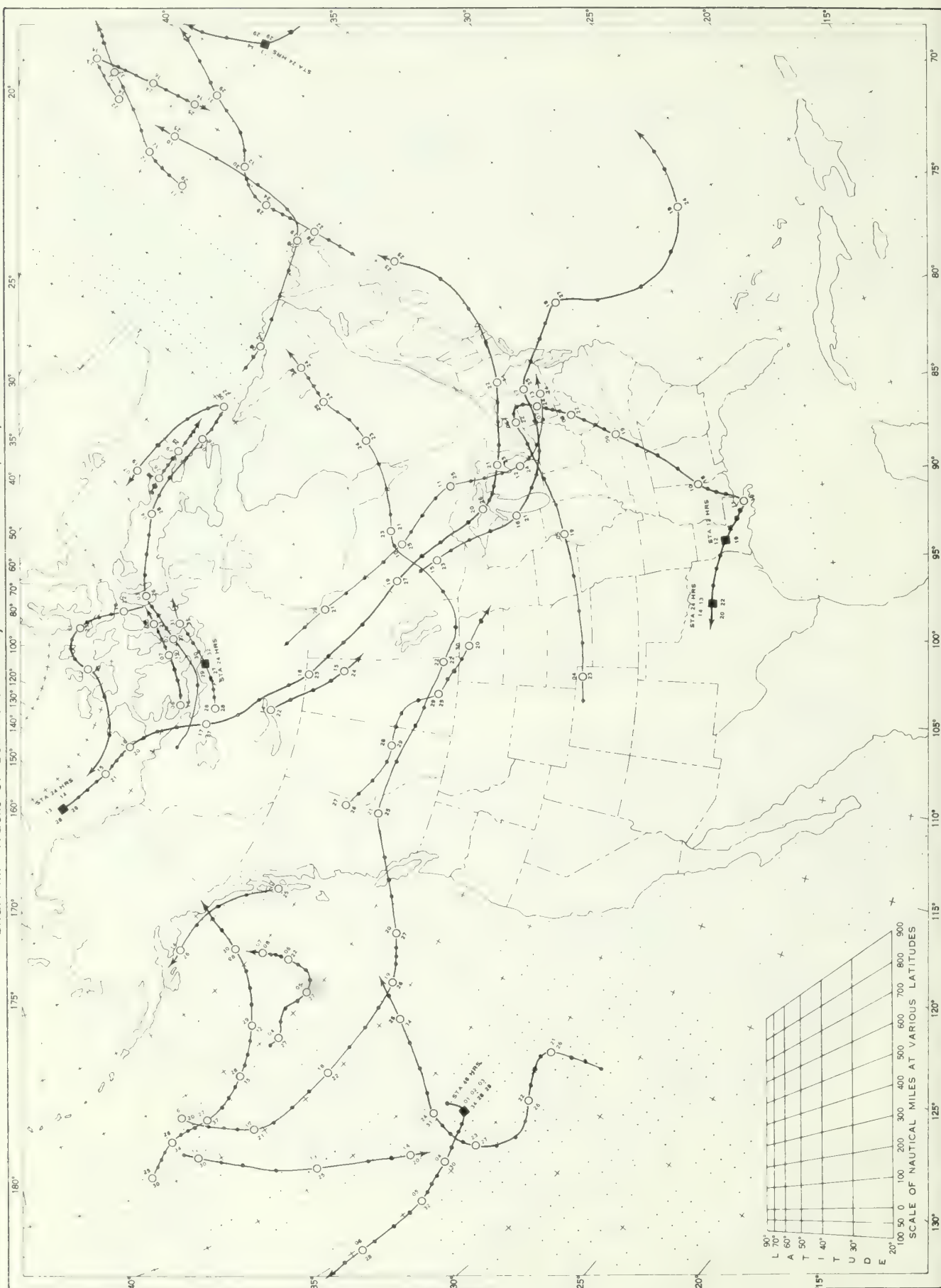
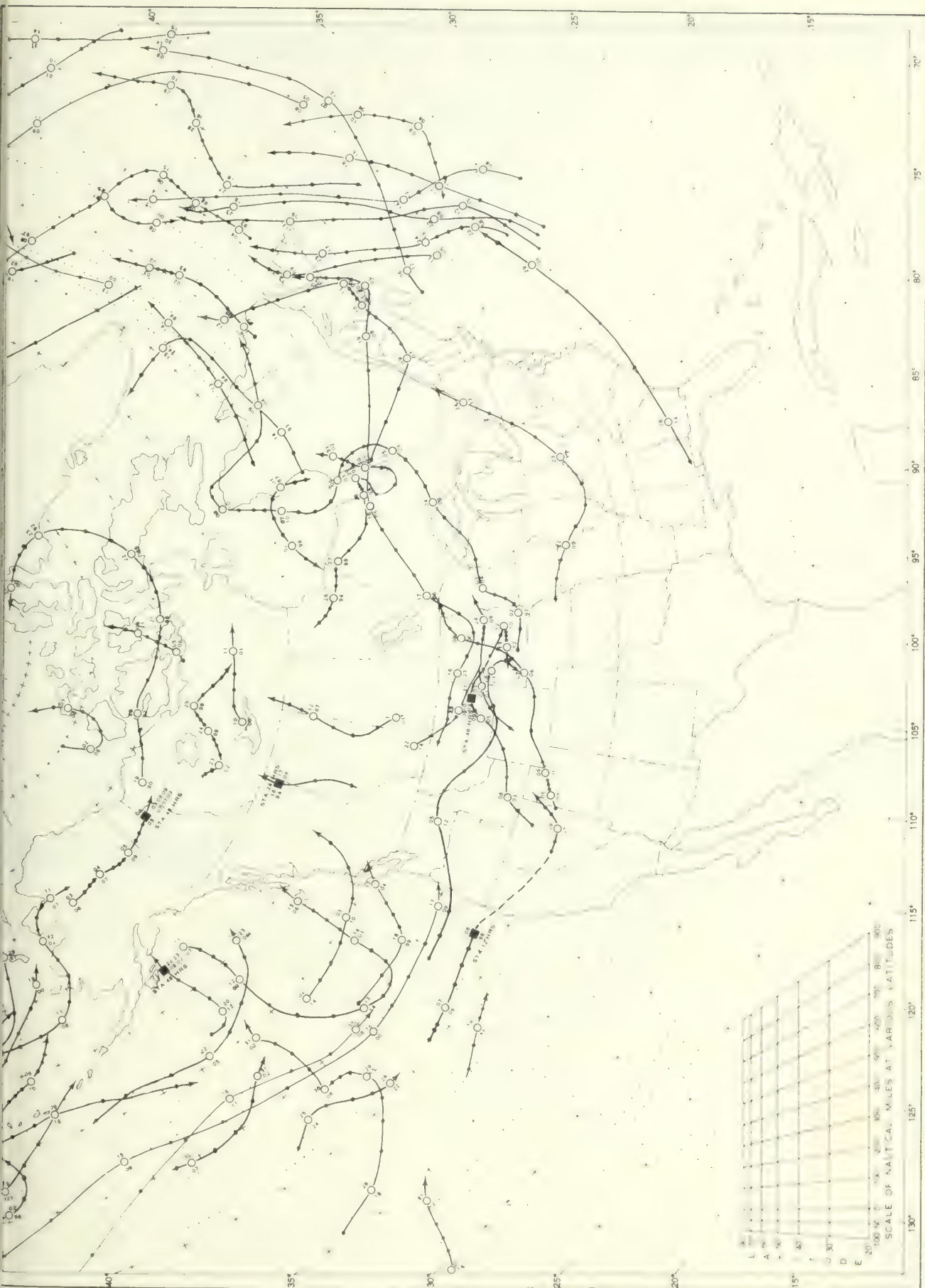


Chart III. Tracks of Centers of Anticyclones at Sea Level, July 1974





Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Environmental Data Service



AUGUST
1974

Volume 25

No. 8

Wilmington, N.C.

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NOTE: Late reports and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

SUBSCRIPTION PRICE: \$8.85 a year including annual summary; \$7.75 additional for foreign mailing; 60¢ single copy; \$1.65 annual summary. Make checks payable to Department of Commerce, NOAA; send payments and orders to: National Climatic Center, Federal Building, Asheville, N. C. 28801. Attn: Publications.

I certify that this is an official publication of the National Oceanic and Atmospheric Administration and is compiled from records on file at the National Climatic Center, Asheville, North Carolina 28801.

William H. Haggard
Director, National Climatic Center

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

AUGUST 1974

GENERAL SUMMARY OF WEATHER CONDITIONS

Dr. Richard E. Felch, Climatologist

HIGHLIGHTS: After a hot, dry July, August rainfall was generally normal or above and temperatures averaged below normal. Precipitation was well above normal in the southern Great Plains and southern Corn Belt, and many parts of the Southeast. Little or no rain fell in the Western States.

Temperatures averaged at least 2° below normal in most areas from the Rockies to the eastern Corn Belt and southern Appalachians. The western tier of States was above normal, as was the Northeast.

PRECIPITATION: Precipitation during August was generally normal or above with heaviest amounts early and late in the month. Rainfall ranged from none across most of California to 11.14 inches at San Angelo, Texas and 11.23 at Jacksonville, Fla. Numerous monthly records for total rainfall were set: in Texas, Austin 8.90 inches; San Antonio, 11.14; at Waco 8.91; in Ohio, Dayton 8.03; and Akron 8.19; and in Montana, Great Falls 4.76; Havre 3.57; and Helena 4.23 inches.

August began with welcome precipitation across the Corn Belt. Nearly 2 inches fell at several stations in Iowa and at least 0.50 over most of the Corn Belt.

During the week ending on the 11th, good rains fell over the Texas High Plains for the second week in a row. The Corn Belt received 1 inch or more except for northern Illinois, Indiana, and Ohio. Widespread heavy rains occurred across the southeastern States, with amounts ranging from 2 to 6 inches.

Rain fell across the eastern two-thirds of the Nation during the week ending on the 18th. The Far West was dry and continued dry the remainder of the

month. Over 1 inch fell across the Central Plains and most of Iowa, Missouri, and Ohio. There were heavy rains again in parts of the Southeast.

During the last 10 days of August, exceptionally heavy rains fell across many parts of the Nation. Rains of 2 inches or more were reported from Texas and Oklahoma to New England. Heaviest rains of 5 inches or more were centered over central Texas, central Alabama, and southern Ohio.

TEMPERATURE: Temperatures cooled markedly during August compared with July. Above normal areas were confined to the Northeast and the Far West. Parts of Montana, Wyoming, North Dakota, and Nebraska averaged 6° or more below normal.

Cool air moved into the Central Plains as August began, bringing welcome relief. Cool temperatures blanketed most of the Nation during the week ending on the 11th. Most of the Great Plains averaged at least 6° below normal, with parts of Wyoming, Nebraska, Kansas, and Texas 10° below normal. Record low temperatures were reported on several mornings from Wyoming to Ohio.

Temperatures returned to near normal across the Nation during the week ending on the 18th. The Pacific Northwest was the major exception where temperatures averaged 3 to 8° below normal.

Temperatures continued near normal into the week ending on the 25th, but the month ended with readings much below normal over the Nation's midsection and much above in the eastern and western third. The Midwest and Northern Great Plains averaged 6 to 11° below normal.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

AUGUST 1974

STATE	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest °F	Date	Station	Lowest °F	Date	Station	Greatest In.	Station	Least In.
Alabama	Whatley	98	13	3 Stations	50	5	Prattville	13.62	Coffee Springs 2 NW	1.60
Alaska	Rikas Landing	86	30	Chandalar Lake	14	24	Juneau 9 NW	15.84	2 Stations	.59
Arizona	Parker	114	26	2 Stations	32	13	Bisbee 2	5.78	5 Stations	.00
Arkansas	Lead Hill	100	17	Gilbert	42	4	Prescott	14.53	Lead Hill	2.02
California	Baker	118	8	Donner Memorial St. Pk.	20	14	Goldstone Echo 2	1.92	292 Stations	.00
Colorado	2 Stations	103	19	2 Stations	21	31	Stonington	2.83	Briggsdale	T
Connecticut	New Haven	93	14	Coventry	39	11	Round Pond	8.07	Groton	1.91
Delaware	Milford 2 WSW	94	1	Milford 2 WSW	46	12	Georgetown 5 SW	7.44	Milford 2 WSW	3.63
Florida	2 Stations	97	21	Archbold Biologic Station	61	2	Cross City 2 WNW	16.87	Chipley 3 E	2.27
Georgia	Inwinton 4 WNW	102	27	Blairsville Exp. Station	53	1	Savannah Beach	14.62	Albany 3 SE	2.13
Hawaii	3 Stations	93	23	Mauna Loa Slope Obs, Hawaii	33	25	Kipa 89.2, Hawaii	9.42	12 Stations	.00
Idaho	Brownlee Dam	105	6	2 Stations	27	21	Warren	3.46	Bruneau	.00
Illinois	3 Stations	95	26	Mount Carroll	44	30	Rosiclare	11.94	Toulon	.42
Indiana	Charlestown Ord Plant	96	27	Auburn 2 SSE	43	4	Vincennes 1 N	12.36	Rochester	.63
Iowa	Red Oak	99	12	Elkader 5 SSW	38	30	Toledo	11.73	Charles City	1.62
Kansas	Garden City FAA AP	107	17	2 Stations	41	4	Howard 5 NE	11.72	Tribune 1 W	.76
Kentucky	4 Stations	93	26	3 Stations	48	6	Valley View Lock 9	14.38	Barbourville	3.78
Louisiana	Minden	100	20	2 Stations	54	5	Schriever	12.47	Covington 4 NNW	1.66
Maine	Saco	93	8	Haynesville	33	26	Squa Pan Dam	5.45	Grand Lake Stream	1.21
Maryland	2 Stations	94	30	Millington	45	12	Snow Hill 4 N	11.32	Conowingo Dam	1.00
Massachusetts	Dunstable	95	4	Chester 2	34	11	Chester 2	8.12	Plymouth	1.02
Michigan	Eau Claire 4 NE	96	20	Herman	30	30	Sault Ste Marie WSO AP	9.48	Ypsilanti East Mich. U	1.05
Minnesota	Redwood Falls FAA AP	98	20	Tower 3 S	27	28	Roseau 1 E	10.97	Lake City	1.28
Mississippi	Clarksdale	101	13	4 Stations	52	6	Columbia	12.62	Okahoma	1.77
Missouri	Berryman 6 NW	100	1	2 Stations	40	4	Houston	13.32	Palmyra	1.72
Montana	Libby 1 NE Ranger Sta.	103	5	Cooke City	25	15	Shonkin 7 S	6.20	Troy	.31
Nebraska	Beaver City	104	19	Melien 21 NW	30	4	Herman 6 W	8.87	Harrisburg 10 NW	.48
Nevada	Logandale UN Exp. Farm	115	26	Rand Ranch Palisade	21	21	Smith 6 N	1.29	10 Stations	.00
New Hampshire	Greenland	94	4	Colebrook 2 E	34	16	Mount Washington	7.30	Durham	1.30
New Jersey	Burlington	96	30	3 Stations	45	12	Indian Mills 2 W	11.43	Audubon	2.96
New Mexico	San Jon	103	15	Las Vegas FAA AP	18	4	Tatum	9.62	Navajo Dam	.20
New York	2 Stations	93	24	Old Forge	38	15	Narrowsburg 4 SE	8.17	2 Stations	.91
North Carolina	Kinston 7 NNE	97	30	Cataloochee	47	1	Kinston 7 NNE	14.69	2 Stations	2.09
North Dakota	3 Stations	99	21	Carrington 4 N	28	31	Drayton 2 N	6.90	Bowman 11 SE	.31
Ohio	2 Stations	95	21	Mansfield 6 W	41	6	Mc Connelsville Lock 7	11.33	Toledo Blade	.78
Oklahoma	Freedom	107	19	Ralston	47	4	Garber	14.99	2 Stations	1.75
Oregon	Vale	106	6	Sprague River	18	20	Government Camp	1.74	38 Stations	.00
Pennsylvania	Norristown	95	20	Tobyhanna	40	12	Zionsville 3 SE	12.48	Mapleton Depot	1.06
Puerto Rico	2 Stations	96	29	Adjuntas Substation	54	19	Coloso	22.46	Aibonito	2.19
Rhode Island	2 Stations	91	14	Kingston	44	13	Greenville	4.67	Newport	1.97
South Carolina	Orangeburg 2	97	1	Caesars Head 1 NE	57	7	Loris 1 S	18.39	Lockhart	2.65
South Dakota	3 Stations	106	20	Ludlow	30	31	Wentworth 2 WNW	6.81	Wessington Sprgs 8 SW	.23
Tennessee	6 Stations	94	27	2 Stations	48	6	Allarot	11.53	Bristol WSO AP	1.95
Texas	Candelaria	106	18	2 Stations	50	25	Hondo	16.96	2 Stations	.00
Utah	Aneth Plant	110	30	Soldier Summit	21	22	Bryce Canyon FAA AP	2.47	10 Stations	.00
Vermont	Vernon	92	13	West Burke	36	16	Rochester	7.49	2 Stations	2.19
Virginia	Chase City	96	31	Floyd 2 NE	45	1	Diamond Springs	11.15	Parramore Beach L B S	1.03
Virgin Islands	Frenchmans Bay	94	27	Charlotte Amalie 2	67	30	East Hill	7.72	Christiansted Fort	2.25
Washington	Nespelem 2 S	108	1	Satus Pass 2 SSW	31	8	Irene Mt. Wauconda	1.81	35 Stations	.00
West Virginia	Martinsburg FAA AP	97	29	Canaan Valley	40	1	Clay 1 SW	8.73	Kearneysville WSO	.81
Wisconsin	2 Stations	94	26	Jump River 5 E	29	30	Crivitz High Falls	12.53	Beloit	84
Wyoming	Colony	102	19	Bondurant 3 NW	18	15	Devils Tower 2	3.01	2 Stations	T

CLIMATOLOGICAL DATA

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State and Station	Elevation (ground)	Pressure		Temperature					Precipitation					Wind				No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 °C or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	25 mm. or more	With thunderstorms			No. of days	Snow, ice pellets	Maximum depth on ground	Resultant speed	Resultant direction	Fastest mile (1.6 kilometers)		Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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State and Station	Elevation (ground)	Pressure		Temperature					Precipitation					Wind				No. of days (sunrise to sunset)	Sky cover, tenths (sunrise to sunset)	Possible sunshine												
		Station	mb	mb	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days Max 32.2° or above	Min. 0° or lower	Average dew point	Average relative humidity	Total				Departure from normal	Greatest in 24 hours	No. of days 25 mm. or more	Total	Maximum depth on ground	Snow, ice pellets	Speed	Direction	Fastest mile (1.6 kilometers)	Date		
COLORADO	1873	814.4	1014.4	27.5	12.3	19.9	-0.7	33.9	17	8.3	11	5	0	7.2	52	29	-37	19	9	12	0	0	1.0	8	13.9	36	2	6	15	10	5.6	4
COLORADO SPRINGS	1610	938.5	1012.8	29.7	11.0	20.8	-1.2	33.4	17	7.2	21	8	0	7.2	46	4	-29	2	5	7	0	0	0.6	14	14.8	SW	17	14	9	8	4.8	74
DENVER	1610	938.5	1012.8	29.7	11.0	20.8	-1.2	33.4	17	7.2	21	8	0	7.2	46	4	-29	2	5	7	0	0	0.6	14	14.8	SW	17	14	9	8	4.8	74
DENVER, JUNCTION	1426	852.0	1012.7	32.9	15.6	24.2	0.1	36.1	18	10.0	10	23	0	3.9	30	44	-14	12	3	6	0	0	1.4	13	17.0	NW	8	19	9	3	3.5	89
PUEBLO	1428	856.4	1012.4	30.9	14.4	22.7	-0.9	36.7	18	10.6	30	14	0	9.4	48	44	-5	19	9	6	0	0	0.9	10	20.6	NW	9	11	9	11	5.4	81
CONNECTICUT	2	1018.3	1018.7	28.3	19.6	23.9	1.3	33.3	14	13.3	11	1	0	17.2	67	77	-20	38	11	6	0	0	0.9	23	13.0	26	4	7	11	13	4.4	62
BRIDGEPORT	52	1011.9	1018.3	29.3	15.8	22.6	1.3	33.3	14	10.6	11	7	0	16.1	70	85	-15	25	10	7	0	0	0.5	22	11.6	SW	4	4	10	17	7.0	62
HARTFORD	23	1015.6	1018.5	29.4	19.6	24.5	1.1	32.2	30	11.7	12	3	0	18.9	74	130	29	45	10	9	0	0	0.8	22	10.3	22	4	2	12	17	7.3	51
WILMINGTON	88	1006.8	1018.5	29.1	18.1	23.6	0.4	31.7	14	12.8	12	0	0	19.4	83	123	15	27	14	8	0	0	0.8	19	9.8	26	17	3	10	18	7.5	51
WASHINGTON DULLES	3	1016.3	1018.8	30.6	20.9	25.8	0.7	33.9	29	15.6	12	9	0	19.4	72	147	28	35	14	11	0	0	1.1	19	15.2	SW	3	3	10	18	7.2	51
WASHINGTON NATIONAL	4	1017.6	1019.0	30.9	23.6	27.3	-0.2	33.3	19	21.1	22	9	0	22.2	78	256	51	92	15	17	0	0	0	10.3	NE	11	4	17	10	6.3	58	
FLORIDA	5	1017.6	1019.0	31.1	22.5	26.8	-0.4	32.2	30	21.1	20	7	0	22.2	78	253	79	121	14	14	0	0	1.5	12	10.3	16	6	5	16	10	5.2	54
APALACHICOLA U	9	1017.3	1018.1	32.8	22.7	28.3	0.1	33.9	9	22.2	22	15	0	22.2	76	196	-1	41	21	28	0	0	0.8	13	15.6	NE	21	1	16	14	7.0	84
DAYTONA BEACH	8	1017.3	1018.1	32.8	22.7	28.3	0.1	33.9	9	22.2	22	15	0	22.2	76	196	-1	41	21	28	0	0	0.8	13	15.6	NE	21	1	16	14	7.0	84
FORT MYERS	5	1017.6	1018.5	31.7	21.5	26.6	-0.6	33.9	19	20.6	22	15	0	22.2	86	285	-85	97	17	19	0	0	0.8	13	15.6	NE	21	1	16	14	7.0	84
JACKSONVILLE	1	1016.3	1016.9	31.3	26.6	29.0	-0.3	32.2	22	23.9	3	1	0	23.9	75	168	-9	28	18	10	0	0	3.8	12	11.6	E	7	+	+	+	+	+
KEY WEST	1	1016.3	1016.9	31.3	26.6	29.0	-0.3	32.2	22	23.9	3	1	0	23.9	75	168	-9	28	18	10	0	0	3.8	12	11.6	E	7	+	+	+	+	+
LAKELAND U	65	1017.6	1017.9	32.4	23.6	27.7	0.0	33.3	15	21.1	10	12	0	22.8	72	236	-65	72	20	16	0	0	3.1	9	12.5	10	3	1	24	6	4.0	60
MIAMI	2	1017.6	1017.9	32.4	23.6	27.7	0.0	33.3	15	21.1	10	12	0	22.8	72	236	-65	72	20	16	0	0	3.1	9	12.5	10	3	1	24	6	4.0	60
ORLANDO	29	1014.9	1018.6	32.8	22.7	27.8	0.1	34.4	31	21.1	2	28	0	22.8	83	167	-4	42	15	22	0	0	1.4	11	13.4	14	8	13	18	10	6.5	55
PENSACOLA	34	1013.2	1017.5	31.6	22.9	27.3	-0.4	33.3	12	21.1	19	15	0	22.8	81	143	-26	47	13	18	0	0	1.0	13	9.4	30	17	2	19	10	5.6	56
TALLAHASSEE	17	1015.6	1018.0	31.9	22.1	27.0	-0.3	34.4	9	20.6	22	20	0	22.8	81	238	-63	77	18	21	0	0	0.5	9	8.9	3	13	0	21	10	5.6	56
TAMPA	3	1017.6	1018.0	32.8	23.7	28.2	0.3	34.4	25	21.7	3	24	0	21.7	74	149	-87	25	15	25	0	0	0.9	12	7.6	33	29	2	18	11	6.7	57
WEST PALM BEACH	5	1017.3	1017.9	31.8	24.4	28.2	0.2	33.3	17	22.2	18	12	0	22.8	75	149	-27	35	16	14	0	0	2.5	11	11.6	11	7	0	20	11	4.7	57
GEORGIA	244	989.8	1018.3	29.8	20.7	25.3	-0.5	33.9	28	18.3	23	4	0	21.1	93	132	62	59	17	10	0	0	0.1	13	7.2	20	3	6	13	12	6.5	51
ATLANTA	308	982.1	1018.1	29.3	20.3	24.8	-0.4	32.8	28	18.9	13	2	0	20.0	79	159	69	33	13	12	0	0	0.5	15	13.0	N	18	3	15	13	6.7	51
AUGUSTA	117	1012.8	1018.2	30.9	20.6	25.9	-0.7	34.4	28	18.9	7	11	0	20.0	78	159	69	33	13	12	0	0	0.5	15	13.0	N	18	3	15	13	6.7	51
COLUMBUS	108	1005.8	1018.5	32.3	21.3	26.8	-0.2	35.6	28	20.6	24	16	0	21.7	79	132	-25	50	14	14	0	0	0.7	8	9.8	5	18	9	11	11	5.9	82
MACON	117	1005.8	1018.5	32.3	21.3	26.8	-0.2	35.6	28	20.6	24	16	0	21.7	79	132	-25	50	14	14	0	0	0.7	8	9.8	5	18	9	11	11	5.9	82
ROME	194	1017.3	1019.0	30.3	19.1	22.7	-0.8	33.9	27	15.6	1	13	0	21.7	79	132	-25	50	14	14	0	0	0.5	10	11.6	NW	18	4	13	14	6.7	82
SAVANNAH	14	1017.3	1019.0	31.1	21.8	26.4	-0.6	33.9	28	20.6	23	12	0	22.2	83	201	36	43	20	18	0	0	0.5	14	12.5	NW	30	1	11	19	7.5	46
HAWAII	8	1014.6	1015.9	29.1	20.8	24.9	0.6	30.6	23	17.8	29	0	0	20.6	79	108	-168	16	26	0	0	0.4	11	7.6	SE	23	1	12	18	7.7	38	
HILO	2	1014.9	1015.4	31.7	22.9	27.3	0.1	32.8	30	19.4	26	11	0	18.9	63	T	-19	T	0	0	0	0	0.4	7	11.6	E	3	6	13	12	6.3	59
HONOLULU	15	1012.5	1014.9	30.8	21.2	26.1	0.1	33.9	23	17.2	29	4	0	20.6	70	3	-6	2	4	0	0	0	0.5	5	14.8	NE	2	9	12	10	5.7	76
KAHULUI	31	1011.2	1016.5	29.4	23.9	26.7	0.5	30.6	21	20.6	28	0	0	20.6	70	57	1	34	14	0	0	0	4.6	6	10.3	E	3	9	12	10	5.9	68
LIHUE	31	1011.2	1016.5	29.4	23.9	26.7	0.5	30.6	21	20.6	28	0	0	20.6	70	57	1	34	14	0	0	0	4.6	6	10.3	E	3	9	12	10	5.9	68
IDAHO	865	914.3	1012.6	30.9	13.2	22.1	-0.3	36.1	5	7.8	8	16	0	4.4	34	6	-2	4	3	0	0	0	0.9	31	9.8	W	5	20	8	3	2.9	85
BOISE	431	914.3	1012.6	30.9	13.2	22.1	-0.3	36.1	5	7.8	8	16	0	4.4	34	6	-2	4	3	0	0	0	0.9	31	9.8	W	5	20	8	3	2.9	85
LEWISTON	1358	863.5	1013.7	30.1	14.6	19.3	-1.5	38.9	5	10.0	13	14	0	2.8	37	T	-15	T	1	1	0	0	2.3	25	23.7	SW	7	17	8	6	3.9	88
POCATELLO	1358	863.5	1013.7	30.1	14.6	19.3	-1.5	38.9	5	10.0	13	14	0	2.8	37	T	-15	T	1	1	0	0	2.3	25	23.7	SW	7	17	8	6	3.9	88
ILLINOIS	96	992.6	1016.5	29.3	20.1	24.7	-1.5	32.2	26	15.6	5	1	0	16.1	73	160	71	42	13	0	0	0	11.6	SW	2	5	12	14	6.7	66		
CAIRO U	201	992.6	1016.5																													

CLIMATOLOGICAL DATA

METRIC UNITS

AUGUST 1974

State and Station	Pressure		Temperature						Precipitation						Wind				No. of days (sunrise to sunset)		Possible sunshine (sunrise to sunset)										
	Elevation (ground)	Station Q	Sea level	Average maximum	Average minimum	Average departure from normal	Highest	Lowest	Date	No. of days		Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	With thunderstorms .25 mm. or more	Total				Maximum depth on ground	Snow, ice pellets	Resultant speed	Resultant direction	Speed	Direction	Fastest mile (1.6 kilometers)	Date		
										Max. 32.2 °C or above	Min. 0 °C or lower																				
INDIANA																															
FORT WAYNE	241	988.2	1017.5	28.4	16.0	22.2	0.4	33.3	13	11.7	6	2	16.1	72	94	20	35	12	8	0	0	1.2	20	15.6	NE	9	3	14	14	5.7	82
INDIANAPOLIS	241	988.8	1017.5	27.4	16.8	22.1	-0.8	31.1	26	10.6	5	0	18.3	81	143	72	43	12	8	0	0	1.1	20	12.1	N	16	7	11	13	6.1	59
SOUTH BEND	236	989.2	1016.6	28.2	16.1	22.2	0.5	33.9	26	12.2	25	5	15.6	68	43	-40	21	10	4	0	0	0.9	22	8.9	24	11	6	12	13	5.5	
IOWA																															
BURLINGTON	211	982.1	1016.3	26.1	16.4	21.3	-2.0	31.7	26	10.0	3	0	17.2	80	103	17	32	14	7	0	0	0.3	20	9.4	30	13	5	7	19	7.2	62
DES MOINES	286	978.0	1016.3	27.1	16.3	21.7	-1.2	35.0	12	10.6	30	4	15.6	71	171	-12	14	12	7	0	0	0.5	18	15.2	NW	13	4	11	16	7.0	
DUBUQUE	322	978.0	1016.3	24.6	14.4	19.5	-1.8	30.0	26	7.2	30	0	13.9	66	103	1	29	12	7	0	0	0.8	16	15.6	SE	17	5	15	11	6.3	71
SIOUX CITY	334	976.3	1015.6	27.2	15.8	21.6	-1.5	34.4	20	10.0	31	3	14.4	73	83	8	43	10	8	0	0	1.1	21	11.2	28	17	1	14	16	7.4	
WATERLOO	265	984.8	1016.4	26.1	14.2	20.2	-1.4	32.8	25	6.7	31	0	15.4	73	73	-16	37	10	6	0	0	1.1	21	11.2	28	17	1	14	16	7.4	
KANSAS																															
CONCORDIA	448	982.8	1014.8	28.8	16.4	22.6	-2.5	37.2	19	10.0	29	7	15.6	70	60	-20	41	9	11	0	0	1.7	14	16.1	NW	17	6	9	16	5.8	82
DODGE CITY	787	925.2	1013.8	30.1	17.5	23.8	-1.8	38.9	17	11.7	3	10	12.2	69	174	107	81	15	12	0	0	2.1	16	17.9	S	8	5	9	17	6.9	62
GOODLAND	1114	889.3	1014.1	27.4	12.8	20.1	-3.3	36.7	19	5.6	5	0	12.2	67	121	-13	14	7	9	0	0	2.0	13	13.4	18	19	8	11	12	6.0	
GOPEKA	267	984.1	1015.5	29.2	17.6	23.4	-1.7	34.4	21	10.0	29	6	16.7	69	42	18	34	17	10	0	0	0.8	14	20.1	NE	17	6	11	12	7.0	52
WICHITA	403	967.8	1014.4	30.7	18.9	24.8	-1.7	37.8	17	10.6	4	13	17.2	68	104	26	34	11	11	0	0	1.8	16	20.6	N	17	5	10	16	7.0	64
KENTUCKY																															
COVINGTON	265	986.8	1017.8	28.8	18.2	23.5	-0.1	31.7	26	11.7	5	0	17.8	75	146	80	65	13	7	0	0	1.4	20	8.9	25	29	7	15	9	4.0	
LEXINGTON	294	983.4	1018.4	28.0	17.8	22.9	-0.9	31.1	2	12.2	6	0	18.3	79	284	198	82	17	11	0	0	1.2	17	9.4	34	28	3	13	15	4.4	
LOUISVILLE	145	999.7	1017.1	28.6	19.2	23.9	-0.5	31.1	14	18.4	6	0	17.8	74	223	147	55	13	10	0	0	1.3	18	10.3	W	27	3	13	15	4.6	61
LOUISIANA																															
ALEXANDRIA	28	1012.2	1016.5	32.8	21.0	26.9	-0.1	35.0	20	15.0	5	21	0	80	151	64	52	14	15	0	0	0.6	15	20.6	34	18	7	11	13	4.3	
BATON ROUGE	20	1014.2	1016.9	32.1	21.7	26.9	-0.7	33.9	21	13.4	5	19	0	81	164	45	59	15	17	0	0	0.9	12	11.6	17	30	3	17	11	3.8	
LAKE CHARLES	3	1015.2	1016.2	31.8	22.3	27.1	-0.8	33.9	23	18.3	6	18	0	78	141	20	60	12	17	0	0	1.2	13	13.0	11	20	4	16	11	6.4	
NEW ORLEANS	1	1015.9	1016.7	32.1	21.4	26.9	-0.8	34.4	20	13.4	5	21	0	75	170	36	47	16	16	0	0	0.5	13	14.3	2	18	4	11	16	6.8	57
SHREVEPORT	77	1006.8	1016.0	32.6	20.8	26.7	-1.7	36.7	19	16.1	5	21	0	77	98	29	32	14	9	0	0	1.2	16	11.6	18	9	4	13	14	6.9	64
MAINE																															
CARIBOU	190	992.6		24.7	11.1	17.9	1.1	30.6	22	5.0	26	0	0	101	5	42	11	7	4	0	0	0.9	22	12.5	N	8	6	10	15	4.2	
PORTLAND	13	1015.6	1018.0	26.1	13.8	19.9	0.8	31.1	4	7.8	16	0	0	15.0	37	-29	13	7	4	0	0	1.4	20	8.9	25	29	7	12	9	4.0	
MARYLAND																															
BALTIMORE	45	1013.5	1019.1	28.7	19.0	23.9	0.1	32.2	3	13.9	12	2	19.4	82	149	42	44	17	13	0	0	0.8	21	11.2	NW	14	5	6	20	7.2	47
MASSACHUSETTS																															
BLUE HILL OBS R	192																														
BOSTON	5	1017.3	1018.3	27.2	16.3	21.8	1.0	32.2	14	12.2	10	1	15.6	71	92	-5	54	7	5	0	0	0.9	21	15.6	SW	4	9	11	11	5.6	49
WORCESTER	301	982.4		25.9	16.0	20.9	0.9	30.0	14	13.9	10	0	0	89	-18	31	9	5	0	0	0	1.6	27	8.9	31	24	7	10	14	6.2	75
MICHIGAN																															
ALPENA	210	991.5	1016.7	25.3	11.1	18.2	0.3	32.2	21	4.4	29	1	12.2	71	52	-17	21	8	8	0	0	0.8	21	8.9	SW	21	9	14	8	4.2	72
DETROIT	189			28.2	18.2	23.2	1.1	31.7	26	16.4	29	0	16.1	67	93	16	72	7	5	0	0	0.8	20	9.4	SW	8	5	14	12	0.3	61
DETROIT MFTRO	193	993.2	1017.0	28.5	16.3	22.4	0.8	32.2	26	10.0	6	2	16.1	72	75	-18	72	7	3	0	0	1.1	23	15.2	SW	16	3	14	12	0.3	61
FLINT	235	989.2	1016.7	27.1	14.7	20.9	0.8	32.2	20	10.0	23	1	14.4	68	70	-13	22	7	8	0	0	1.2	22	9.4	31	27	6	12	13	3.6	
GRAND RAPIDS	239	986.2	1017.0	25.9	13.3	19.6	-1.5	31.1	26	7.8	28	0	14.4	75	117	53	26	9	7	0	0	1.0	21	13.9	SW	26	4	13	14	6.7	63
HOUGHTON LAKE	350	975.3	1017.1	24.4	12.2	18.3	-0.1	30.0	20	6.1	23	0	13.9	70	71	11	28	12	11	0	0	1.3	23	8.0	14	11	6	12	13	6.4	
LANGSHIRE	256	985.8	1017.0	27.8	12.6	20.2	-0.6	33.3	26	6.1	25	2	14.4	70	68	-3	31	9	5	0	0	1.2	23	10.3	W	31	6	13	12	4.2	66
MAPQUETTE U	206			22.3	13.8	18.1	-0.6	29.4	20	8.9	31	0	15.0	73	98	22	47	12	11	0	0	1.2	23	13.4	SW	25	1	15	15	7.0	45
MUSKEGON	191	984.2	1016.9	22.1	14.7	20.4	-0.2	30.0	21	10.0	29	0	15.0	73	71	5	28	14	11	0	0	1.2	21	13.0	30	30	7	18	16	4.4	
SAULT STE MARIE	220	989.5	1015.7	23.9	11.8	17.9	0.6	30.6	20	5.6	30	0	13.9	81	241	162	150	12	9	0	0	0.4	21	11.2	SW	12	2	14	15	7.2	58
MINNESOTA																															
DULUTH	435	984.1	1015.1	20.6</																											

CLIMATOLOGICAL DATA

METRIC UNITS

AUGUST 1974

State and Station	Elevation (ground)	Pressure		Temperature								Precipitation						Wind				No. of days (sunrise to sunset)		Possible sunshine																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
		Station	Sea level	Average maximum		Average minimum		Departure from normal	Highest	Date	Lowest	Date	No. of days	Max 32.2 °C or above	Min. 0 °C or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.25 mm. or more				No. of days	Snow, ice pellets		Total	Maximum depth on ground	Residual speed	Residual direction	Fastest mile (1.6 kilometers)	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
				C	F	C	F															C	F			C	F													C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C

CLIMATOLOGICAL DATA

AUGUST 1974

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CLIMATOLOGICAL DATA

METRIC UNITS

April 1974

State and Station	Elevation (ground)	Pressure		Temperature										Precipitation						Wind				No. of days (sunrise to sunset)		Possible sunshine																	
		Station	Sea level	Average maximum		Average minimum		Average	Departure from normal	Highest		Lowest	Date		No. of days	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	25 mm. or more	With thunderstorms	Total				Snow, ice pellets	Resultant speed	Resultant direction	Fastest mile (1.6 kilometers)		Direction											
				°C	°F	°C	°F			°C	°F		°C	°F									°C	°F	mm					in	mm		in	mm	in	mm	in	mm	in	mm	in	m/s	mph
SOUTH CAROLINA	12	1016.9	1018.9	30.4	22.1	26.3	-0.2	33.3	18	19.4	12	9	0	21.7	80	432	268	119	23	17	0	0	0	0.7	19	16.1	NW	20	2	13	19	7.2	61										
	CHARLESTON U	3		29.0	22.9	24.0	-1.2	33.3	19	20.0	5	1	0	21.7	80	157	75	75			0	0	0	0.3	13	15.6	SE	7	4	9	18	7.2	59										
	COLUMBIA	65	1010.5	1018.3	30.9	20.9	25.1	-0.8	35.0	27.4	18.9	23	0	22.2	86	157	14	54	10	10	0	0	0	0.3	19	9.4	SW	31	4	12	15	6.9	52										
	GONVILLE-SPRING	292	984.4	1018.5	30.3	19.9	25.1	-0.2	34.4	28	17.2	19.4	0	19.4	75	102	-	35	13	8	0	0	0	0.3	19	9.4	SW	31	4	12	15	6.9	52										
SOUTH DAKOTA	395	967.8	1014.2	27.7	12.3	20.1	-1.4	37.2	20	5.0	22	5	0	11.7	63	24	-29	15	8	6	0	0	0	0.4	26	13.0	31	30+	9	12	10	5.3	70										
	ABERDEEN	390	968.2	1013.9	28.6	12.5	20.6	-1.7	37.8	25	4.4	4	6	0	11.1	60	32	-18	16	9	6	0	0	0.6	19	17.0	NW	17	13	10	8	4.9	70										
	HURON	964	1051.5	1014.6	28.2	11.4	19.8	-2.2	39.9	19	5.6	31	3	0	7.8	50	35	-	12	10	9	0	0	0.8	1	16.1	NW	20	13	13	5	4.3	79										
	SIOUX FALLS	432	965.5	1016.1	26.7	12.8	19.8	-2.3	35.0	20	5.0	31	3	0	14.4	73	131	59	54	9	7	0	0	1.1	21	15.6	24	20+	10	13	8	4.3	79										
TENNESSEE	459	965.5	1019.0	27.9	17.6	22.8	-0.7	31.1	27.4	14.4	22	0	0	18.9	83	50	-45	10	16	11	0	0	0	0.2	31	8.0	3	6	5	9	17	5.9	49										
	BRISTOL	203	993.9	1018.1	29.4	19.2	24.3	-1.2	32.8	26	15.0	5	3	0	20.6	83	155	73	53	16	11	0	0	0.6	20	11.6	W	29	5	11	15	7.0	49										
	CHATTANOOGA	299	983.7	1018.4	29.5	19.9	24.7	-0.4	33.3	27.4	16.1	5	4	0	18.9	78	80	-3	25	13	8	0	0	0.4	26	9.4	23	29	6	19	7.1	73	49										
	KNOXVILLE	179	1006.8	1018.8	30.8	21.7	25.2	-0.7	33.9	17	16.1	5	12	0	21.1	78	121	37	43	14	12	0	0	1.4	18	14.3	35	17	6	19	7.1	73	49										
MISSISSIPPI	180	995.9	1017.3	30.5	20.2	25.3	-0.5	33.9	10	14.4	5	6	0	20.0	77	105	23	31	16	14	0	0	0	1.3	19	13.0	W	29	5	17	14	6.7	54										
	NASHVILLE	180	995.9	1017.3	30.5	20.2	25.3	-0.5	33.9	10	14.4	5	6	0	20.0	77	105	23	31	16	14	0	0	0	1.3	19	13.0	W	29	5	17	14	6.7	54									
	NASHVILLE	180	995.9	1017.3	30.5	20.2	25.3	-0.5	33.9	10	14.4	5	6	0	20.0	77	105	23	31	16	14	0	0	0	1.3	19	13.0	W	29	5	17	14	6.7	54									
	NASHVILLE	180	995.9	1017.3	30.5	20.2	25.3	-0.5	33.9	10	14.4	5	6	0	20.0	77	105	23	31	16	14	0	0	0	1.3	19	13.0	W	29	5	17	14	6.7	54									
TEXAS	544	952.6	1013.9	31.5	20.3	25.9	-2.7	35.0	18	17.8	11	17	0	17.8	66	142	90	73	9	6	0	0	0	3.5	17	15.6	NW	1	11	8	12	5.6	68										
	AMARILLO	1098	992.3	1013.9	32.1	22.6	27.1	-2.2	35.6	18	11.7	5	7	0	15.6	68	192	117	58	17	13	0	0	3.5	17	15.6	NW	1	11	8	12	5.6	68										
	AUSTIN	182	993.2	1014.9	32.1	22.6	27.1	-2.2	35.6	18	11.7	5	7	0	15.6	68	192	117	58	17	13	0	0	3.5	17	15.6	NW	1	11	8	12	5.6	68										
	BROWNSVILLE	6	1013.5	1014.9	34.8	24.9	29.4	0.3	35.6	28.4	20.6	22	31	0	22.2	69	1	-67	11	8	3	0	0	0	5.1	14	13.9	SE	10	11	12	8	5.0	87									
CALIFORNIA	12	1012.9	1014.3	34.7	24.6	29.6	0.1	37.2	1	22.2	23	28	0	23.3	73	27	-55	11	8	3	0	0	0	0	5.1	14	13.9	SE	10	11	12	8	5.0	87									
	CORPUS CHRISTI	6	1013.5	1014.9	34.8	24.9	29.4	0.3	35.6	28.4	20.6	22	31	0	22.2	69	1	-67	11	8	3	0	0	0	5.1	14	13.9	SE	10	11	12	8	5.0	87									
	DALLAS-FORT WORTH	164	994.2	1014.8	33.7	22.9	28.3	-1.1	40.0	19	20.0	10+	22	0	19.4	65	106	49	37	6	6	0	0	0	2.4	17	17.4	2	1	9	13	5.9	77										
	DEL RIO	313	977.3	1012.4	34.8	22.6	28.7	-1.4	37.8	18	10.3	12	27	0	19.4	63	86	55	62	6	9	0	0	0	4.2	11	13.4	2	1	9	13	5.9	77										
NEW MEXICO	1194	882.5	1011.3	31.7	18.3	25.0	-1.9	36.7	18	14.4	25	18	0	12.2	50	16	-12	14	6	9	0	0	0	0.6	11	16.1	W	20+	11	9	11	5.3	60										
	EL PASO	1194	882.5	1011.3	31.7	18.3	25.0	-1.9	36.7	18	14.4	25	18	0	12.2	50	16	-12	14	6	9	0	0	0	0.6	11	16.1	W	20+	11	9	11	5.3	60									
	GALVESTON U	2	1012.2	1015.9	32.7	22.3	27.6	-1.0	35.6	1	21.1	7	2	0	22.2	78	205	93	56	14	9	0	0	0	0.6	11	16.1	W	20+	11	9	11	5.3	60									
	HOUSTON INTERCON	29	1012.2	1015.9	32.7	22.3	27.6	-1.0	35.6	1	21.1	7	2	0	22.2	78	205	93	56	14	9	0	0	0	0.6	11	16.1	W	20+	11	9	11	5.3	60									
UTAH	992	904.8	1013.6	32.6	18.6	23.6	-2.2	35.6	1	15.6	12	29	0	16.7	72	176	66	82	16	17	0	0	0	1.5	12	13.0	20	29+	4	13	14	6.9	53										
	LUBBOCK	992	904.8	1013.6	32.6	18.6	23.6	-2.2	35.6	1	15.6	12	29	0	16.7	72	176	66	82	16	17	0	0	0	1.5	12	13.0	20	29+	4	13	14	6.9	53									
	MIDLAND	869	916.4	1012.5	32.6	20.2	26.4	-1.3	38.3	10	18.3	30	17	0	17.2	65	113	74	27	10	11	0	0	2.9	14	15.6	26	11	14	5	12	5.5	64										
	PORT ARTHUR	5	1015.6	1012.5	32.4	22.1	27.3	-1.1	35.0	20.4	20.0	5	25	0	22.8	84	112	-33	34	15	20	0	0	1.5	16	12.5	N	13	3	17	11	4.7	52										
ARIZONA	580	948.2	1013.3	32.1	20.8	26.4	-2.7	35.6	10	18.9	29	20	0	18.3	66	121	85	43	11	9	0	0	0	2.5	17	15.6	1	10	9	14	8	5.3	52										
	SAN ANGELO	240	987.1	1014.5	31.8	22.8	27.3	-1.9	35.0	13.4	17.8	23	19	0	21.7	77	283	222	82	10	7	0	0	3.0	14	14.8	E	24	5	13	13	6.2	52										
	SAN ANTONIO	240	987.1	1014.5	31.8	22.8	27.3	-1.9	35.0	13.4	17.8	23	19	0	21.7	77	283	222	82	10	7	0	0	3.0	14	14.8	E	24	5	13	13	6.2	52										
	SAN ANTONIO	240	987.1	1014.5	31.8	22.8	27.3	-1.9	35.0	13.4	17.8	23	19	0	21.7	77	283	222	82	10	7	0	0	3.0	14	14.8	E	24	5	13	13	6.2	52										
IDAHO	153	997.0	1014.7	34.8	23.4	23.4	-0.7	39.4	19	21.1	4	24	0	20.0	64	226	180	74	13	5	0	0	0	3.7	17	10.7	17	9	7	12	5.9	70											
	BOZEMAN	153	997.0	1014.7	34.8	23.4	23.4	-0.7	39.4	19	21.1	4	24	0	20.0	64	226	180	74	13	5	0	0	0	3.7	17	10.7	17	9	7	12	5.9	70										
	BOZEMAN	153	997.0	1014.7	34.8	23.4	23.4	-0.7	39.4	19	21.1	4	24	0	20.0	64	226	180	74	13	5	0	0	0	3.7	17	10.7	17	9	7	12	5.9	70										
	BOZEMAN	153	997.0	1014.7	34.8	23.4	23.4	-0.7	39.4	19	21.1	4	24	0	20.0	64	226	180	74	13	5	0	0	0	3.7	17	10.7	17	9	7	12	5.9	70										
KANSAS	303	978.3	1014																																								

CLIMATOLOGICAL DATA

METRIC UNITS

AUGUST 1974

State and Station	Elevation (ground)	Pressure		Temperature										Precipitation				Wind				No. of days (sunrise to sunset)		Possible sunshine %											
		Station	Sea level	Average maximum		Average minimum		Average	Departure from normal	Highest	Date	Lowest	Date	No. of days		Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	25 mm. or more				No. of days	Snow, ice pellets		Resultant speed	Resultant direction	Speed (1.6 kilometers)	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10
				C	F	C	F	C	F	C	F	C	F	Max. 32.2 °C or above	Min. 0 °C or lower	C						F	mm			in	mm								
WASHINGTON	289			31.0	16.5	23.8	0.7	38.9	4	12.9	21+ 14	0	0	8.9	47	70	- 11	7	0	0	0	0	0	0	1.7	W	7.6	SW	18+	14	3	3.7	76		
	321	976.5	1013.8	31.7	11.3	21.5	1.2	37.8	4	6.1	21+ 16	0	0	8.9	47	7	- 6	7	0	0	0	0	0	0	1.7	W	10.7	SW	18	15	5	3.7			
WEST VIRGINIA	4	1013.5	1016.1	31.4	25.5	28.4	1.1	35.6	23	23.9	30	7	0	21.7	68	167	- 10	87	16	4	0	0	0	0	4.1	10	12.1	E	30+	7	17	7	5.8	56	
BECKLEY	763	932.6	1019.2	24.8	15.3	20.1	- 0.3	28.9	28+	11.1	6	0	0	16.1	83	70	- 26	17	14	5	0	0	0	0	1.3	18	9.8	16	11+	1	9	21	7.9		
	286	985.1	1018.6	28.3	17.9	23.1	0.0	31.7	27	13.3	1	0	0	18.9	81	107	14	26	16	9	0	0	0	0	0.5	19	7.6	33	29+	4	11	16	7.3		
	594	949.9		25.1	13.9	19.5	- 0.2	27.8	27	8.9	1	0	0	18.9	81	174	72	55	15	0	0	0	0	0	0.9	20	10.3	28	27	2	8	21	7.8	59	
HUNTINGTON	252	988.5	1018.0	28.3	18.1	23.2	- 0.1	31.7	27+	13.3	5	0	0	18.9	81	125	41	29	16	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	187			28.3	17.9	23.1	- 0.1	31.1	27+	13.3	4	0	0	18.9	81	150	65	38	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
WISCONSIN																																			
	208	990.5	1016.0	25.1	13.0	19.1	- 0.8	30.6	21	5.6	30	0	0	14.4	76	41	- 26	15	11	7	0	0	0	0	1.7	22	12.5	W	11	4	10	17	4.9	52	
	186	985.2	1016.6	26.4	12.0	20.2	- 1.7	31.7	19	8.3	31	0	0	15.0	75	107	30	30	9	7	0	0	0	0	1.1	19	15.2	NW	27	4	8	19	7.3	57	
MILWAUKEE	265	991.5	1016.5	26.2	14.9	19.3	- 1.1	32.8	26	10.0	30	1	0	15.0	76	117	39	49	12	8	0	0	0	0	1.3	22	22.4	W	11	4	11	16	4.9	59	
MINNESOTA																																			
	1627	839.5	1014.2	27.1	8.9	18.0	- 2.9	32.8	19	4.4	31+	1	0	3.3	44	25	11	25	2	2	0	0	0	0	1.0	30	12.5	24	20	16	8	7	4.0		
	1867	814.4	1014.5	26.9	11.0	18.4	- 1.3	31.1	25+	6.7	10+	0	0	3.9	43	33	- 4	19	5	0	0	0	0	0	0.6	26	14.8	SW	19	10	14	7	5.9	71	
LOUISIANA	1696	831.4	1014.0	27.2	9.7	18.4	- 2.1	33.9	18	3.9	21	4	0	1.7	38	17	6	12	5	5	0	0	0	0	1.4	26	18.8	SW	6	15	12	4	7.9	78	
	1208	880.5	1015.6	26.3	8.1	17.2	- 3.4	35.0	6	3.3	21+	4	0	5.6	51	18	- 6	10	7	7	0	0	0	0	1.2	33	15.2	NW	20+	13	9	5.3	66		

(Base 65°F.)

State and station	Current season			Normals July through this month		State and station	Current season			Normals July through this month		State and station	Current season			Normals July through this month		State and station	Current season			Normals July through this month	
	This month	Period July through this month	Period July through this month				This month	Period July through this month	Period July through this month				This month	Period July through this month	Period July through this month				This month	Period July through this month	Period July through this month		
ALABAMA						IDAHO						NEBRASKA						TENNESSEE					
BIRMINGHAM	0	0	0	0	0	BOISE	11	21	12	0	0	GRAND ISLAND	27	27	6	0	0	BRISTOL	0	0	0	0	0
HUNTSVILLE	0	0	0	0	0	LEWISTON	0	9	17	0	0	LINCOLN	14	14	0	0	0	CHATTANOOGA	0	0	0	0	0
MOBILE	0	0	0	0	0	POCATELLO	42	53	20	0	0	NORFOLK	18	18	17	0	0	KNOXVILLE	0	0	0	0	0
MONTGOMERY	0	0	0	0	0					0	0	NORTH PLATTE	40	40	15	0	0	MEMPHIS	0	0	0	0	0
						ILLINOIS				0	0	OMAHA	15	15	6	0	0	NASHVILLE	0	0	0	0	0
ALASKA						CAIRO U	0	0	0	0	0	SCOTTSBLUFF	28	28	8	0	0	OAK RIDGE P	0	0	0	0	0
ANCHORAGE	263	498	502	0	0	CHICAGO O HARE	1	1	25	0	0	VALENTINE	20	39	18	0	0						
ANNETTE	200	498	442	0	0	CHICAGO MIDWAY	2	2	8	0	0					TEXAS							
BARROW	495	1490	1664	0	0	MOLINE	8	8	11	0	0	NEVADA				ABILENE	0	0	0	0	0		
BARTER ISLAND	848	1685	1584	0	0	PERRIA	1	1	8	0	0	ELKO	55	83	87	AMARILLO	0	0	0	0	0		
BETHEL	258	576	713	0	0	ROCKFORD	5	5	22	0	0	ELY	54	66	85	AUSTIN	0	0	0	0	0		
BETTLES	260	452	627	0	0	SPRINGFIELD	1	2	8	0	0	LAS VEGAS	0	0	0	BROWNsville	0	0	0	0	0		
BIG DELTA	275	460	503	0	0					0	0	RENO	42	94	67	CORPUS CHRISTI	0	0	0	0	0		
COLD BAY	360	820	887	0	0	INDIANA	0	0	0	0	0	WINNEMUCCA	41	73	48	DALLAS FT WORTH	0	0	0	0	0		
FAIRBANKS	195	280	452	0	0	EVANSVILLE	0	0	0	0	0				DEL RIO	0	0	0	0	0			
GRIKENA	331	592	620	0	0	FORT WAYNE	3	3	12	0	0	NEW HAMPSHIRE				FL PASO	0	0	0	0	0		
HOMER	336	704	785	0	0	INDIANAPOLIS	5	5	5	0	0	CONCORD	26	60	61	GALVESTON U	0	0	0	0	0		
JUNEAU	315	664	620	0	0	SOUTH BEND	3	3	30	0	0	MT WASHINGTON OBS	505	1049	1060	HOUSTON INTERCON	0	0	0	0	0		
KING SALMON	245	533	473	0	0	IOWA				0	0				LUBBOCK	0	0	0	0	0			
KODIAK	276	662	651	0	0	BURLINGTON	0	9	8	0	0	NEW JERSEY				MIDLAND	0	0	0	0	0		
KOTTERBUE	297	460	818	0	0	DES MOINES	12	12	13	0	0	ATLANTIC CITY	0	0	0	PORT ARTHUR	0	0	0	0	0		
MC GRATH	210	403	576	0	0	DUBUQUE	17	38	38	0	0	ATLANTIC CITY U	0	0	0	SAN ANGELO	0	0	0	0	0		
NOME	419	844	952	0	0	SIOUX CITY	3	3	10	0	0	NEWARK	0	0	0	SAN ANTONIO	0	0	0	0	0		
ST. PAUL ISLAND	519	1143	1141	0	0	WATERLOO	27	27	33	0	0	TRENTON U	0	1	0	VICTORIA	0	0	0	0	0		
SUMMIT	441	839																					

COOLING DEGREE DAYS

(Base 65°F.)

August 1974

State and station	Current season		Normals January through this month	State and station	Current season		Normals January through this month	State and station	Current season		Normals January through this month	State and station	Current season		Normals January through this month
	This month	Period January through this month			This month	Period January through this month			This month	Period January through this month			This month	Period January through this month	
ALABAMA				HAWAII				NEBRASKA				SOUTH CAROLINA			
BIRMINGHAM	418	1417		HILLO	375	2359		GRAND ISLAND	159	972		CHARLESTON	450	1665	
HUNTSVILLE	417	1215		HONOLULU	509	3059		LINCOLN	197	1072		CHARLESTON U	434	1796	
MOBILE	517	2063		KAHULUI	439	2413		NORFOLK	149	857		CHESAPEAKE	432	1865	
MONTGOMERY	420	1647		LIHUE	473	2889		NORTH PLATTE	115	655		GRNVILLE-SPRTNBPG	344	1213	
ALASKA				IDAHO				OMAHA	193	978					
ANCHORAGE	0	1		BOISE	226	780		SCOTTSDUFF	134	714		SOUTH DAKOTA			
ANNETTE	12	12		LEWISTON	277	807		VALENTINE	171	778		ABERDEEN	145	650	
BARROW	0	0		POCATELLO	102	448		NEVADA				BARROW	164	741	
BARTER ISLAND	0	0		ILLINOIS				FLKO	48	354		RAPID CITY	132	669	
BETHEL	0	0		CAIRO U	344	1336		FLY	30	198		SIoux FALLS	126	719	
BETHEL	11	61		CHICAGO O HARP	162	530		LAI VERA	713	2649		TENNESSEE			
BIG DELTA	4	12		CHICAGO MIDWAY	222	700		RENO	71	238		BRISTOL	254	724	
BOLD RAY	0	0		MOLINE	180	749		WINNEMUCCA	112	551		CHATTANOOGA	343	916	
FAIRBANKS	0	0		PEORIA	233	764		NEW HAMPSHIRE				KNOXVILLE	365	1133	
GLYNN	0	2		ROCKFORD	177	638		CONCORD	92	262		MEMPHIS	445	1633	
HOMER	0	0		SPRINGFIELD	252	916		MT WASHINGTON OBS	0	0		NASHVILLE	399	1258	
JUNEAU	0	0		INDIANA								OAK RIDGE R	295	865	
KING SALMON	0	0		EVANSVILLE	292	1127		NEW JERSEY				TEXAS			
KODIAK	0	0		FORT WAYNE	225	686		ATLANTIC CITY	292	795		ABILENE	430	2093	
KOTLER	0	0		INDIANAPOLIS	225	805		ATLANTIC CITY U	266	732		AMARILLO	274	1315	
MC CATHY	0	11		SOUTH BEND	222	684		NEWARK	361	1006		AUSTIN	513	2128	
NOME	1	1		IOWA				TRENTON U	311	857		BROWNSVILLE	624	2949	
ST. PAUL ISLAND	0	0		BURLINGTON	181	720		NEW MEXICO				GORDON CHRISTI	637	2839	
SUMMIT	0	0		DES MOINES	209	918		ALBUQUERQUE	247	1240		DALLAS FT WORTH	543	2201	
TALKEETNA	0	0		DUBUQUE	109	477		CLAYTON	130	734		DEL RIO	584	2719	
YAKUTAT	1	1		SIoux CITY	193	935		POSWELL	299			EL PASO	378	1818	
ARIZONA				WATFLOO	136	604						GALVESTON U	553	2276	
FLAGSTAFF	33	219		KANSAS				NEW YORK				HOUSTON INTERCON	519	2252	
PHOENIX	821	3234		CONCORDIA	248	1174		ALBANY	111	350		LUBBOCK	300	1642	
TUCSON	564	2215		RODGE CITY	313	1365		RINGHAMTON	128	355		MIDLAND	455	2079	
WINSTON	308	1124		COOKEVILLE	130	761		BUFFALO	158	399		PORT ARTHUR	505	2139	
YUMA	834	3187		TOPEKA	292	1114		NEW YORK U	340	944		SAN ANGELO	440	2161	
ARKANSAS				WICHITA	348	1374		NEW YORK KENNEDY	342	855		SAN ANTONIO	594	2649	
FORT SMITH	385	1450		KENTUCKY				NEW YORK LA GUARDIA	338	909		VICTORIA	594	2649	
LITTLE ROCK	441	1589		COVINGTON	297	836		ROCHESTER	181	500		WACO	610	2407	
CALIFORNIA				LEXINGTON	264	793		SYRACUSE	128	373		WICHITA FALLS	517	2163	
BAKERSFIELD	616	2128		LOUISVILLE	319	962		NORTH CAROLINA				UTAH			
BISHOP	280	996		LOUISIANA			ASHEVILLE	234	638		MILFORD	184	642		
BLISS CANYON	112	301		ALEXANDRIA	488	1976		CAPE HATTERAS R	309	1292		SALT LAKE CITY	298	1080	
EUREKA U	0	0		BATON ROUGE	485	2127		CHARLOTTE	344	1154		WENDOVER	320	1230	
FRESNO	448	1543		LAKE CHARLES	496	2107		GREENSBORO	333	1012		VERMONT			
LONG BEACH	262	759		NEW ORLEANS	484	2104		BALFORTH	347	1126		BURLINGTON	140	414	
LOS ANGELES	150	397		SHREVEPORT	477	1852		WILMINGTON	449	1599		VIRGINIA			
LOS ANGELES U	235	871		MAINE			NORTH DAKOTA				LYNCHBURG	296	815		
MT SHASTA R	94	244		CARIBOU	50	111	BISMARCK	61	409		NORFOLK	390	1260		
OAKLAND	12	44		PORTLAND	115	268	FARGO	75	440		RICHMOND	340	1071		
RED BLUFF	500	1477		MARYLAND			WILLISTON	51	440		ROANOKE	267	803		
SACRAMENTO	285	827		BALTIMORE	317	889	OHIO				WALLOPS ISLAND	307	850		
SANBERG R	248	704		MASSACHUSETTS			AKRON	196	554		WASHINGTON				
SAN DIEGO	169	453		BLUE HILL OBS R	204	474	CINCINNATI ARB OR	326	948		OLYMPIA	50	86		
SAN FRANCISCO	27	66		BOSTON	226	574	CLEVELAND	180	534		QUILLAYUTE	3	13		
SAN FRANCISCO U	3	17		WORCESTER	164	394	COLUMBUS	286	781		SEATTLE	76	136		
SANTA MARIA	12	31		MICHIGAN			DAYTON	277	793		SEATTLE-TACOMA	62	136		
STOKTON	358	1204		ALPENA	64	213	WANSFIELD	215	610		SPOKANE	127	398		
COLORADO				DETROIT	277	780	TOLFO	206	569		STAMPEDE PASS R	48	70		
ALAMOSA	0	44		DETROIT METRO	237	693	YOUNGSTOWN	143	415		WALLA WALLA U	311	850		
COLORADO SPRINGS	109	498		FLINT	163	456	OKLAHOMA				YAKIMA	192	522		
DENVER	157	676		GRAND RAPIDS	103	374	OKLAHOMA CITY	426	1524		WEST INDIES				
GRAND JUNCTION	335	1164		HOUGHTON LAKE	62	230	TULSA	419	1657		SAN JUAN	575	3854		
PUEBLO	249	1034		LANSING	138	445	OREGON				WEST VIRGINIA				
CONNECTICUT				MARQUETTE U	70	277	ASTORIA	11	16		BECKLEY	117	323		
BRIDGEPORT	320	834		SAULT STE MARIE	51	126	BURNS U	127	388		CHARLESTON	275	841		
HARTFORD	247	684		MINNESOTA			EUGENE	143	330		FLKINS	85	217		
DELAWARE				DULUTH	15	149	MEACHAM	76	176		HUNTINGTON	279	907		
WILMINGTON	355	988		INTERNATIONAL FALLS	38	259	MEDFORD	262	613		PARKERSBURG U	273	801		
DIST. OF COLUMBIA				MINNEAPOLIS	127	612	PENDLETON	332	832		WISCONSIN				
WASHINGTON DULLES	299	731		ROCHESTER	97	480	PORTLAND	144	307		GREEN BAY	87	310		
WASHINGTON NATIONAL	422	1201		ST CLOUD	60	393	SALFM	108	220		LA CROSSE	177	579		
FLORIDA				MISSISSIPPI			SEXTON SUMMIT R	83	191		MADISON	102	424		
APALACHICOLA	507	2108		JACKSON	451	1703	PACIFIC AREA				MILWAUKEE	98	353		
DAYTONA BEACH	480	2191		MERIDIAN	507	1897	GUAM TAGUAC R	414	3357		WYOMING				
FORT MYERS	561	2847		MISSOURI			JOHNSTON	494	3429		CASPER	47	399		
JACKSONVILLE	467	1912		COLUMBIA REGIONAL	232	910	KHARD R	540	3429		CHRYSTAL	67	132		
KEY WEST	601	3509		KANSAS CITY	264	1104	KWAJALEIN	518	4117		LANDER	71	455		
LAKELAND U	532	2500		ST JOSEPH	211	1041	MAJURO	503	3851		SHEPHERDAN	19	406		
MIAMI	584	3257		ST LOUIS	300	1096	PAGO PAGO	414	3518						
ORLANDO	536	2291		SPRINGFIELD	309	1037	PONAPE R	489	3817						
PENSACOLA	505	2238		MONTANA			TRUK MOEN ISLAND	517	4057						
TALLAHASSEE	491	1952		BILLINGS	78	563	WAKE	414	3295						
TAMPA	562	2593		CALGARY	62	448	YAP R	511	3849						
WEST PALM BEACH	552	2905		GREAT FALLS	64	455	PENNSYLVANIA								
GEORGIA				HAYR	45	457	ALLENTOWN	236	644						
ATHENS	392	1265		HELENA	31	323	BRF	114	303						
ATLANTA	368	1267		KALISPELL	43	215	HARRISBURG	381	1071						
AUGUSTA	421	1420		MILES CITY	101	697	PHILADELPHIA	277	1004						
COLUMBUS	470	1694		MISSOULA	48	302	PITTSBURGH	247	603						
MACON	482	1788					SCRANTON	17	401						
ROME	362	978					WILLIAMSPORT	204	521						
SAVANNAH	467	1828					RHODE ISLAND								
							BLOCK ISLAND	227	414						
							PROVIDENCE	264	629						

STORM SUMMARY

AUGUST 1974

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				@HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				φ ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	† DAMAGE	DEATHS	INJURIES	† DAMAGE		DEATHS	INJURIES	† DAMAGE		DEATHS	INJURIES	† DAMAGE		DEATHS	INJURIES	† DAMAGE		DEATHS	INJURIES	† DAMAGE		DEATHS	INJURIES	† DAMAGE	
								PROP. ERTY	CORPS			PROP. ERTY	CORPS			PROP. ERTY	CORPS			PROP. ERTY	CORPS			PROP. ERTY	CORPS			PROP. ERTY	CORPS
Alabama	1	1			2							4			1	4													
Alaska	*																												
Arizona	2	2			3					1	3	5				4											5		
Arkansas								1				3				4											5		C
California	*																												
Colorado	5	2			5			5	6			4	5					1									6	4	
Connecticut														1															
Delaware																													
Florida	8	6			5			2			7	5				5										1		4	
Georgia	1	1			4							5				1													
Hawaii	*																												
Idaho									6							1	2												
Illinois	30	5	2		5				6					1		4										1		4	
Indiana									6																				
Iowa	2	1		14	6			5	6			5	5			5											5	5	
Kansas	5	3			5			7	6		10	7	7			4										1		5	5
Kentucky								5	5			4	4			5	4									1	3	5	2
Louisiana	3	3		3	5											3	5												
Maine											5	4			3	5													
Maryland & D.C.	1	1			4							4				4													
Massachusetts																												4	2
Michigan								3	C			4	C			3													
Minnesota	1	1			5			5	6			5				5													
Mississippi	1	1			3							4				4												5	
Missouri	2	1			2			2	2	3	4	5	C			4										1		2	2
Montana								5	5																				
Nebraska	6	4		7	6	1	6	7			1	5	3			1	5	3								1		3	
Nevada																													
New Hampshire	1	1			3																								
New Jersey											1	2			3											5		2	2
New Mexico	1	1			4				6			3	2	1															
New York	1	1			4			2	2			2	2			7	2	2										2	2
North Carolina	2	2			4			3	6			4				1													
North Dakota	9	3		5	6			5	6			5	5			1	4												
Ohio	2	2			4			4	C		2	6				2	5											6	C
Oregon	*																												
Oklahoma	3	3			5			3	3		2	5	3	1	1	4												5	4
Pacific																												5	C
Pennsylvania	2	2			4			2	4			5	3		3	5										1	14	7	2
Puerto Rico	1	1			5					1		5	C															5	C
Rhode Island																												3	2
South Carolina												3	3			4													
South Dakota	1	1			3			4	5			5	4															2	2
Tennessee									5		3	5				1	4												
Texas	10	7			5			5	6		6	5	5				4									2		5	
Utah	*																												
Vermont	*																												
Virginia	1	1			3							4	4			4												2	2
Virgin Islands	*																												
Washington	*																												
West Virginia	*																												
Wisconsin	1	1			3			4	6		6	6		1		6										1			
Wyoming	5	3			4			4	3					1		5													

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

AUGUST 1974

Herbert J. Thompson and Raymond J. Haley,
Office of Hydrology

There were no major flood disasters during August, but significant flooding occurred on several streams, the most serious of which involved tributaries of the Colorado, San Antonio, and Nueces Rivers in Texas. Significant flooding was also reported on the Neuse, Cape Fear, and Lumber Rivers in North Carolina, the Iowa River in Iowa, in the Smoky Hill River Basin in Kansas, and on the North Canadian River in Oklahoma.

occurred during the month. Communities affected included: Detroit, Michigan; Union County, New Jersey; Delaware County, Pennsylvania; Jackson, Mississippi; Jeannette, Pennsylvania; and several places in Arizona.

Hydrologic events of unusual significance or involving loss of life or property damage are discussed in more detail below.

A number of severe flash and/or urban flood events

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
GREAT LAKES DRAINAGE			
Rouge River Basin	Heavy rainfall during the evening of the 16th caused severe urban flooding throughout metropolitan Detroit. Many freeways were closed due to flooded underpasses. Basement flooding was reported in the East Detroit and Hazel Park areas. Rainfall amounts ranged from less than an inch to nearly 3 inches, with 2.73 inches recorded at Metro Airport from 6 to 8 p.m.	0	N.A.
ALTANTIC SLOPE DRAINAGE			
Elizabeth River	During the night of the 17th-18th heavy thunderstorms occurred in warm moist air over northeastern New Jersey ahead of a slowly moving cold front. Hardest hit was Union County where 3-4 inches of rain in less than 2 hours caused flash flooding along the Elizabeth River with 1 death. Property damage was light.	1	N.A.
Delaware River Basin	On the 23d a slowly moving thunderstorm deposited rainfall in excess of 5 inches over portions of Delaware County, Pennsylvania, resulting in severe flash flooding - the worst in 20 years - along Cobbs and Upper Darby Creeks. Numerous homes and several businesses were flooded. Inventory losses were heavy. Evacuation of 22 patients from the Cobbs Creek Nursing Home was necessary. There was significant damage to roads, and travel on the Red Arrow train line was halted. A motorist was drowned when she left her stalled car.	1	1,000
Neuse and Cape Fear Rivers	General rainfall occurred over eastern North Carolina from the 3d to the 8th, with Wm. O. Huske Lock & Dam reporting a 48 hour total of 7.5 inches on the 6th-7th. However, amounts were lighter elsewhere. Flooding was reported along the Neuse and Cape Fear Rivers with crest stages 2.5 to 5 feet over flood stage along the Neuse and about 4 feet over flood stage along the Cape Fear River. A five-year old child drowned in a flooded creek near his home in Durham.	1	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

AUGUST 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
ATLANTIC SLOPE DRAINAGE-Con't			
Pee Dee River Basin	A northeast-southwest oriented frontal system over the Carolinas with a high level trough over the Mississippi Valley which closed at times caused heavy rainfall over the basin during the period of the 2d-9th. Serious flooding occurred along the Lumber River as a result of 8.9 inches in 3 days at Lumberton, N. C., and 5.9 inches in 5 days at Red Springs, N. C. Lesser amounts fell toward the headwaters. The Lumber River crested 5 feet over flood stage and 150 families were evacuated from a low cost housing project. Minor commercial damage occurred downstream at Fair Bluff, N. C. Damage along the Lumber River was estimated at \$15,000. On the Little Pee Dee River a motor lodge was closed for a week at Nichols, S. C., with losses of \$6,000. Flooding along the Pee Dee River interrupted logging operations with losses of \$5,000.	0	26
Santee River Basin	Monthly rainfall totals ranged from 4 inches over the lower end to 10 inches over the mountainous headwaters of the Saluda Basin. Two brief periods of minor flooding with minimal losses occurred at Chappells, S. C.	0	0
EAST GULF OF MEXICO DRAINAGE			
Pearl River Basin	On the 31st, severe flash and urban flooding occurred in Jackson, Miss., when a large thunderstorm deposited 2.5 to 3.5 inches of rain on the city. Over two-thirds of this rain fell in a 15-minute period. Homes were flooded in all sections of the city and 18 families evacuated themselves. Several stores were flooded and some street damage occurred. On the whole, damage was light considering the nature of the storm. Considerable urban flooding also occurred in Columbia, Mo., on the 1st. Rainfall was estimated at 2 inches in 40 minutes.	0	N.A.
UPPER MISSISSIPPI BASIN			
Iowa River	Flooding occurred along the Iowa River from just upstream of Marshalltown, Iowa, to near the Corahville Dam. The crest at Marshalltown was nearly 3 feet over flood stage. On the night of the 8th 1 to 2-inch rains fell over the basin followed by 2 to 5-inch rains the night of the 9th and by 2 to 3-inch rains the night of the 11th. Flash flooding on small streams in Tama and Poweshiek Counties occurred the night of the 9th as Toledo, Iowa, reported 5.48 inches and Brooklyn 4.22 inches. Flood damage was primarily agricultural.	0	N.A.
MISSOURI BASIN			
Smoky Hill River Basin	Serious flooding occurred on the North Fork of Big Creek northeast of Hays, Kansas, in Ellis County on the 8th. Rains of 4 to 6 inches fell in the area. Damage was primarily to farm property. There are no reporting stations on the stream.	0	66

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

AUGUST 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
MISSOURI BASIN-Con't			
Lower Missouri Basin	There were several periods of abnormally heavy rain-fall over the area during August: the Grand River Basin received 3 to 8 inches from the 7th to the 13th; 3 to 5 inches fell in southeast Nebraska on the 15th & 16th; west central Missouri and east central Kansas received 3 to 3.5 inches on the 22d and 23d, and the latter area had an additional 3 to 4 inches on the 28th and 29th. However, no flooding occurred due to the extremely dry soil conditions resulting from the low July rainfall.		
OHIO BASIN			
Youghiogheny River Basin	Heavy, intense, local rainfall caused severe flash and urban flooding in Jeannette, Pa., on the late afternoon of the 12th. About 500 homes and 30 businesses were affected.	0	N.A.
Little Miami River Basin	A stalled cold front caused week-long rains over the area beginning on the 27th with a storm total of 5 inches over the East Fork of the Little Miami River Basin. Heavy runoff threatened a cofferdam at the East Fork Reservoir Project and flood gates were opened which caused minor flooding downstream at Perintown, Ohio. Damage was relatively light.	0	N.A.
WHITE BASIN			
Cache River	Rains of up to 3 inches over portions of the basin occurred during the week beginning on the 9th and resulted in flooding of low-lying farmland around Patterson, Ark., which continued into September. Damage was light.	0	N.A.
ARKANSAS BASIN			
Middle Arkansas Basin	After the near drouth conditions prevailing during August, above normal rainfall occurred over portions of the basin, particularly in south central and southeast Kansas where several stations reported monthly totals in excess of 11 inches. Substantial rises occurred on the Little Arkansas and Neosho Rivers but no flooding resulted. Northwest Oklahoma had rainfall of 5 to 6 inches on the 28th-29th with minor flooding on the Cimarron River. Moderate flooding occurred on the North Canadian River with a crest of 3.3 feet over flood stage at Seiling, Okla.	0	N.A.
RED BASIN			
Washita River	On the 28th-29th rainfall of 3 to 6.6 inches over the headwaters of the Washita River caused light flooding at Clinton and Carnegie, Okla.	0	N.A.
WEST GULF OF MEXICO DRAINAGE			
Brazos River Basin	Rainfall amounting to more than 6 inches over the lower Navasota Basin on the 28th-29th caused minor flooding at Bryan, Texas.	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

AUGUST 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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WEST GULF OF MEXICO DRAINAGE-Con't

On the 26th, 6 inches of rain in 12 hours caused flash and urban flooding at Cleburne, Texas, affecting some businesses. On the 10th-11th heavy rains caused flooding along Elm Creek which affected a campground north of Abilene, Texas.

San Saba River	About 8 inches of rain on the 28th-29th in the headwaters of the San Saba (a tributary of the Colorado River) caused a flood wave to move through Menard, Texas, with considerable damage. The crest at Menard was 6 feet over flood stage. Downstream at San Saba, Texas, a crest more than 4 feet over flood stage occurred with little damage since adequate warnings made possible the evacuation of livestock and equipment from the flood plain.	0	200
Llano River Basin	Two distinct flood crests occurred on the Llano River during the period of the 28th-30th. The Llano is a tributary of the Colorado River in Texas. On the 28th rainfall averaging 6 inches fell over the North Fork with about 2 inches over the South Fork. A crest more than 14 feet over flood stage occurred at Junction while downstream at Llano the crest was 9.4 feet over flood stage. On the 29th rains of about 6 inches fell over the South Fork with 1 to 2 inches along the North Fork. A crest nearly 8 feet over flood stage occurred at Llano while the river failed to go over flood stage at Junction. Heavy damage was reported in Kimble County.	0	1,500
Pedernales River Basin	Heavy rainfall occurred on the 28th over the headwaters of the Pedernales Basin with Harper, Texas, reporting 7.25 inches. The Pedernales is a tributary of the Colorado River in Texas. Damage was reported to pastures, fences, and roads. Flooding was confined to the upper reaches and the river failed to go over flood stage at the reporting station at Johnson City, Texas.	0	100
San Antonio and Nueces River Basins	Heavy but variable rainfall occurred over the headwaters of the San Antonio and Frio Rivers on the 29th-30th. The Frio is a tributary of the Nueces. Light flooding occurred along the Sabinal River as a result of 2 to 3-inch rains between Sabinal and Utopia, Texas. Hondo, Texas, reported a 48-hour storm total of 11.5 inches which caused severe flooding along Hondo Creek, a tributary of the Frio, and along the Medina River, a tributary of the San Antonio River. Damage to homes, pasture lands, and farm buildings along these two streams was estimated at \$150,000. There are no reporting stations along the flooded reaches of the latter two streams.	0	N.A.

On the 6th an average rainfall of 4 inches with locally heavier amounts of at least 6.5 inches occurred over the Frio Basin. Flooding on the lower Frio resulted with crests 5 feet over flood stage at Tilden, Texas, and 9 feet over flood stage at Calliham. Downstream on the main stem of the Nueces rains of 3 to 14 inches occurred on the 6th-8th resulting in serious flooding along the middle reach of the stream with crests 6 to 9 feet over flood stage. Several trailers were washed

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

AUGUST 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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WEST GULF OF MEXICO DRAINAGE-Con't

away at George West, Texas, where over 11 inches of rain was reported.

Rio Grande Basin in Texas	Above normal rainfall fell over the basin during the month with most of it occurring during the period of the 22d-29th. Heavy rain during the night of the 22d in Big Bend National Park caused flooding along the smaller tributaries in the area leaving some campers stranded. The Rio Grande reached a crest stage of 10.4 feet at Boquillas, Texas, (Flood stage is 13 feet) on the 22d.	2	N.A.
	Flash flooding claimed 2 lives on the 29th when a truck was washed off the road near Sonora, Texas.		

GULF OF CALIFORNIA DRAINAGE

Lower Colorado Basin	A number of instances of flash and/or urban flooding occurred in Arizona during August, most of them in the Gila River Basin in the southern part of the State. Among the more significant events reported were: urban flooding in Ajo and Hayden on the 1st; homes flooded in the Cactus and Tempe suburbs of Phoenix on the 5th; flash flooding with 3 automobiles destroyed in Clifton on the 6th; flash flood in San Jose Arroyo east of Safford with a car destroyed on the 14th; and a flash flood in Pantano Wash near Pantano on the 19th. Several highways were closed for varying periods of time. There were no reports of loss of life.	0	N.A.
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ALASKA

Copper River Basin	Tazlina Lake, dammed by Tazlina Glacier, dumped on about the 18th. Flooding of low lying areas around Tazlina Lake and along the upper reaches of the Tazlina River resulted.	0	N.A.
Tanana River Basin	Flash flooding occurred on numerous small streams crossing the Richardson Highway 25 miles south of Big Delta. The highway was closed by One Mile Creek for a short period.	0	N.A.
	The Chisana River, a glacial fed stream, reached to within 0.5 foot of flood stage during the middle of the month at Northway. This excessive melt resulted from unusually warm temperatures aloft.		

PUERTO RICO

The severe long-term drouth which had caused restrictions on the use of water ended on the 29th. A tropical depression passing south of the island caused heavy rainfall amounting to over 5 inches on the north coast with 2-4 inches in the interior. There was no river flooding due to low soil moisture conditions, but considerable urban flooding was reported.

FLOOD STAGE DATA

(All dates in August unless otherwise specified)

AUGUST 1974

River and station	Flood stage	Above flood stages -dates		Crest		River and station	Flood stage	Above flood stages -dates		Crest	
		From-	To-	Stage	Date			From	To-	Stage	Date
ATLANTIC SLOPE DRAINAGE	Ft.			Ft.		WEST GULF OF MEXICO DRAINAGE-Cont'd	Ft.			Ft.	
Tar:						Llano-Continued:					
Rocky Mount, N. C.	9	9	9	9.0	9	Llano, Texas	12	29 30	29 30	21.4 19.8	29 30
Newse:						Sabinal:					
Smithfield, N. C.	13	7	10	16.0	8	Sabinal, Texas	14	30	30	14.1	30
Goldboro, N. C.	14	6	15	18.8	11	Frio:					
Kingston, N. C.	14	9	18	16.5	14	Tilden, Texas	12	9	15	16.9	12
Cape Fear:						Calliham, Texas	12	9	14	21.28	11
Huske Lock & Dam, N. C.	42	7	9	45.8	8	Nueces:					
Elizabethtown, N. C.	20	7	10	24.1	8	Tilden, Texas	14	11	20	20.2	13
Lumber:						Mathis Bridge, Texas	15	13	20	23.8	17
Lumberton, N. C.	9	6	26	14.0	7	Calallen, Texas	7	15	22	7.64	18-19
Little Pee Dee:						P Provisional					
Galivants Ferry, S. C.	9	7	26	11.8	12						
Waccamaw:											
Conway, S. C.	7	28	28	7.0	28						
Pee Dee:											
Pee Dee, S. C.	19	9	12	19.9	12						
Saluda:											
Chappella, S. C.	14	10 13	11 13	15.1 14.2	11 13						
Catawba:											
Lookout Shoals Reservoir, N. C.	100	7	10	100.5	10						
North Fork Edisto:											
Orangeburg, S. C.	8	11	12	8.0	11						
Ogeechee:											
Eden, Ga.	9	19	20	9.3	19						
EAST GULF OF MEXICO DRAINAGE											
Peachtree Creek:											
Atlanta, Ga.	13	7	7	16.8	7						
<u>Upper Mississippi Basin</u>											
Iowa River:											
Marshalltown, Iowa	13	10	13	15.97	12						
<u>Ohio Basin</u>											
East Fork Little Miami:											
Perintown, Ohio	19	30	30	19.62	30						
<u>White Basin</u>											
Cache:											
Patterson, Ark.	7	19	1	7.5	22						
<u>Arkansas Basin</u>											
Cimarron:											
Dover, Okla.	17	28	29	17.1	28						
Guthrie, Okla.	10	29	29	10.49	29						
North Canadian:											
Seiling, Okla.	11	27	28	14.30	27						
<u>Red River Basin</u>											
Washita:											
Clinton, Okla.	18	27	28	19.38	27						
Carnegie, Okla.	18	27	28	18.14	27						
WEST GULF OF MEXICO DRAINAGE											
Navasota:											
Bryan, Texas (near)	12	29	31	13.30	30						
San Saba:											
Menard, Texas	12	28	29	18.0	28						
San Saba, Texas (near)	24	28	31	28.35	29						
Llano:											
Junction, Texas (near)	14	28	28	28.3	28						

Average monthly values

ALBANY, N. Y. 1009 M										ALBUQUERQUE, N. MEX. 840 M										ALBUQUERQUE, N. MEX. 840 M										ALBUQUERQUE, N. MEX. 840 M										ALBUQUERQUE, N. MEX. 840 M									
Resultant Wind					Resultant Wind					Resultant Wind					Resultant Wind					Resultant Wind					Resultant Wind					Resultant Wind																			
Surface pressure station (m.s.)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed (m.p.h.)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed (m.p.h.)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed (m.p.h.)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed (m.p.h.)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed (m.p.h.)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed (m.p.h.)													
5.083	31	86	16.7	15.5	17	3	31	16.8	16.8	16.8	16.8	16.8	31	16.8	16.8	16.8	16.8	16.8	31	16.8	16.8	16.8	16.8	16.8	31	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8														
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3							
1.000	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17	3	31	183	17.1	15.1	17																																

ATHENS, GEORGIA										BARROW, ALASKA										BARTO, IS., ALASKA										BETHEL, ALASKA										BISMARCK, N. DAK.									
WSG MB										1016 MB										1016 MB										1011 MB										WSG MB									
SURFACE	31	240	208	19.7	03	.5	31	8	3.4	3.0	12	2.1	31	.5	1.5	1.3	08	1.7	31	39	11.4	10.0	18	1.5	31	503	11.0	8.8	23	.7																			
1300																																																	
950	31	204	21.4	18.2	21	.3	31	160	7.1	-7.17	1.7	31	559	7.0	-2.6	27	1.5	31	560	10.5	6.9	19	4.2	26	565	12.4	6.8	24	.9																				
900	31	1703	19.1	15.4	23	1.7	31	1405	5.9	-2.7	4.1	2.0	31	15004	6.8	-3.0	28	2.5	31	10009	8.2	3.6	18	4.5	31	1718	14.0	6.6	25	3.0																			
850	31	1503	21.6	16.4	24	2.8	31	1471	3.9	-5.2	1.9	31	1472	6.1	-3.8	28	4.1	31	1460	5.5	1.1	17	5.3	31	1718	14.0	6.6	25	3.0																				
800	31	20077	13.2	1.5	24	2.1	31	1962	1.6	-6.7	2.5	3.4	31	1962	1.3	-7.8	29	4.7	31	1974	3.2	-1.4	18	5.3	31	1936	9.3	7.2	26	.5																			
750	31	2618	10.0	-4.2	25	3.6	31	2480	-1.2	-10.1	25	4.0	31	2479	-1.7	-10.2	23	5.1	31	2495	-4	-6.7	19	5.5	31	2495	6.3	-4.2	24	7.2																			
700	31	3168	5.3	.5	26	4.0	31	3027	-4.4	-13.5	26	4.9	31	3026	-4.5	-13.6	29	5.5	31	3046	-2.8	-8.3	27	5.3	31	3091	-1	-10.3	28	8.0																			
650	31	3793	2.8	-3.3	25	4.1	31	3607	-7.3	-17.4	26	5.1	31	3606	-8.0	-17.3	29	5.6	31	3631	-5.6	-14.3	19	5.7	31	3687	-2.5	-13.2	20	8.5																			
600	31	4437	-7	-7.8	25	4.5	31	4226	-11.0	-20.6	26	5.2	31	4223	-11.8	-22.2	29	5.6	31	4255	-8.7	-20.7	19	6.3	31	4323	-4.4	-16.8	29	10.4																			
550	31	5138	-2.3	-11.6	26	5.3	31	4988	-15.5	-26.7	27	5.9	31	4984	-16.0	-27.2	30	5.4	31	4924	-12.6	-26.9	20	5.9	31	5018	-1.2	-22.3	28	11.7																			
500	31	5874	-8.0	-1.5	25	5.8	31	5600	-20.4	-31.5	26	6.1	31	5596	-20.8	-31.4	30	5.9	31	5646	-16.2	-26.9	20	6.3	31	5715	-13.4	-26.1	17	13.0																			
450	31	6664	-13.4	-22.6	26	6.0	31	6378	-15.7	-36.3	26	6.9	31	6360	-16.1	-36.5	30	6.8	31	6428	-22.5	-32.0	20	7.1	31	6529	-18.8	-31.7	25	14.7																			
400	31	7457	-1.4	-28.7	26	6.4	30	7423	-32.0	-41.4	27	7.9	31	7429	-31.1	-40.6	31	8.3	31	7482	-28.2	-38.2	20	7.4	31	7496	-25.4	-38.1	28	15.6																			
350	31	8552	-26.6	-37.6	26	7.4	30	8553	-31.0	-46.1	27	8.9	31	8543	-30.8	-46.8	30	9.1	31	8528	-35.4	-43.8	27	7.4	31	8555	-37.4	-53.3	28	17.3																			
300	31	9464	-35.0	-66.9	26	8.6	30	9418	-46.7	-67.7	26	9.5	31	9418	-46.8	30	9.7	31	9421	-43.1	-47.1	21	9.1	31	9442	-40.8	-50.8	27	18.8																				
250	31	10849	-44.0		26	10.3	30	10849	-52.7		27	10.4	31	10849	-52.7		31	11.1	31	10849	-52.7		27	9.1	31	10835	-41.3																						
200	31	12365	-54.0		26	10.3	30	11827	-49.5		27	10.4	31	11828	-49.6		31	10.0	31	11944	-59.9		27	8.8	31	12074	-55.5																						
175	31	13184	-61.2		27	10.2	30	12704	-48.7		27	8.1	31	12716	-48.2		29	9.3	31	12810	-51.4		23	7.2	31	12924	-55.9		28	19.8																			
150	31	14131	-65.1		27	7.2	30	13718	-43.7		28	7.6	30	13730	-43.3		29	8.8	31	13811	-51.8		23	5.6	31	13906	-55.7		28	17.3																			
125	31	15234	-67.3		28	3.3	29	14916	-49.1		28	6.7	30	14931	-48.1		29	6.8	31	14995	-52.0		23	4.4	31	15006	-56.6		30	13.8																			
100	31	16379	-66.7		34	1.0	28	16382	-48.9		28	5.2	30	16397	-48.7		30	6.0	30	16441	-51.9		23	4.4	31	16479	-56.5		27	10.0																			
75	31	17936	-63.8		06	0.6	27	17868	-48.9		29	3.8	30	17886	-48.4		30	3.9	30	17888	-51.5		23	2.3	31	17895	-56.5																						
50	31	18705	-59.1		07	4.4	26	18727	-48.8		30	3.0	30	18747	-47.8		31	3.0	30	18755	-50.4		23	2.2	30	18750	-54.9		28	4.0																			
25	31	19722	-53.9		08	7.1	26	19743	-48.1		29	2.5	29	19769	-47.9		32	3.1	30	19759	-51.1		27	.9	30	19738	-43.9		27	2.6																			
0	31	20872	-56.7		09	9.1	25	20948	-48.1		32	1.6	29	20973	-47.7		35	.7	30	20945	-50.9		18	.9	29	20920	-52.1		34	.7																			
50	31	22495	-54.4		09	10.6	24	22413	-47.9		01	1.2	27	22440	-47.4		31	1.6	29	22397	-50.0		11	1.0	29	22360	-50.9		05	1.1																			
30	31	24151	-51.1		09	12.7	19	24311	-47.1		01	1.5	29	24335	-46.4		03	2.0	28	24263	-49.5		10	1.7	29	24251	-44.6		08	3.7																			
25	31	25341	-49.8		09	14.0	16	25316	-46.1		05	1.6	29	25367	-45.4		07	2.6	28	25342	-47.7		09	2.3	29	25345	-47.3		08	4.7																			
20	31	26981	-47.1		09	16.0	5	26978	-45.1		01	1.9	29	26982	-44.6		07	3.4	25	26984	-45.8		08	2.2	28	26938	-46.6		08	6.2																			
15	31	28716	-43.9		09	17.8						2.0	29	29004	-41.6		08	3.2	27	28983	-43.1		09	3.2	27	28886	-43.1		09	6.9																			
10												24	31797	-37.1		07	4.1	7	31715	-39.5				26	31701	-39.4		08	9.4																				
5																								24	36070	-41.7		09	9.3																				
7																								14	36421	-42.4																							

RAWINSONDE DATA

Average monthly values

AUGUST 1974

LAKE CHARLES, LA.										CHATHAM, MS.										CHIHUAHUA, MEXICO										COLO BAY, ALASKA												
1017 MB										1017 MB										959 MB										1011 MB												
Surface pressure	Wind direction	Wind speed	Temperature	Dew point	Relative humidity	Cloud cover	Sea level pressure	Wind direction	Wind speed	Surface pressure	Wind direction	Wind speed	Temperature	Dew point	Relative humidity	Cloud cover	Sea level pressure	Wind direction	Wind speed	Surface pressure	Wind direction	Wind speed	Temperature	Dew point	Relative humidity	Cloud cover	Sea level pressure	Wind direction	Wind speed	Surface pressure	Wind direction	Wind speed	Temperature	Dew point	Relative humidity	Cloud cover	Sea level pressure	Wind direction	Wind speed			
1000	31	294	17.0	10.3	25	1.6	31	13	22.0	21.3	07	4.2	31	16	19.2	16.8	26	7	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8
950	31	294	15.0	8.8	28	4.5	31	160	23.5	22.3	24	5.3	31	160	19.9	15.4	26	1.8	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8
900	31	294	13.0	7.2	31	6.0	31	160	21.1	19.4	22	2.0	31	160	18.8	14.7	26	3.7	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8
850	31	294	11.0	5.6	31	6.0	31	160	18.8	16.1	22	1.9	31	160	16.2	11.0	26	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8
800	31	294	9.0	3.6	31	6.0	31	160	16.1	13.0	23	1.2	31	160	13.6	8.0	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8
750	31	294	7.0	1.6	31	6.0	31	160	13.6	10.3	23	3.3	31	2594	8.2	-3.4	27	7.0	31	1514	19.0	12.4	29	1.0	31	1403	6.8	-1.9	13	8.6	31	2484	2.3	-5.9	19	8.6	31	2484	2.3	-5.9	19	8.6
700	31	294	5.0	-0.4	31	6.0	31	160	10.3	7.0	24	3.3	31	2108	5.2	-5.7	27	8.1	31	2035	17.8	9.8	28	1.3	31	1960	4.8	-1.9	13	8.6	31	2035	17.8	9.8	28	1.3	31	2035	17.8	9.8	28	1.3
650	31	294	3.0	-2.4	31	6.0	31	160	7.0	3.0	25	4.1	31	1764	2.7	-12.3	27	8.9	31	2585	14.4	7.5	27	1.0	31	2484	2.3	-5.9	19	8.6	31	2585	14.4	7.5	27	1.0	31	2585	14.4	7.5	27	1.0
600	31	294	1.0	-4.4	31	6.0	31	160	3.0	-1.9	24	4.1	31	1450	-7.0	-24.0	27	9.6	31	3165	10.3	4.5	14	1.4	31	3039	-4.3	-9.2	19	8.6	31	3165	10.3	4.5	14	1.4	31	3165	10.3	4.5	14	1.4
550	31	294	-1.0	-7.4	31	6.0	31	160	1.0	-7.0	24	5.1	31	1108	-15.0	-35.0	27	10.8	31	3778	5.9	1.2	09	1.1	31	3629	-3.4	-13.2	19	9.4	31	3778	5.9	1.2	09	1.1	31	3778	5.9	1.2	09	1.1
500	31	294	-3.0	-10.4	31	6.0	31	160	-3.0	-10.0	24	5.8	31	850	-24.0	-48.0	26	13.9	31	5125	-3.0	-8.6	05	1.3	31	4931	-11.0	-22.2	20	10.7	31	850	-24.0	-48.0	26	13.9	31	5125	-3.0	-8.6	05	1.3
450	31	294	-5.0	-13.4	31	6.0	31	160	-5.0	-13.0	24	5.8	31	589	-10.0	-23.9	26	11.4	31	5875	-11.0	-16.2	33	1.0	31	5658	-15.1	-27.1	21	10.7	31	589	-10.0	-23.9	26	11.4	31	5875	-11.0	-16.2	33	1.0
400	31	294	-7.0	-16.4	31	6.0	31	160	-7.0	-16.0	24	5.1	31	7524	-21.2	-34.9	26	12.5	31	7583	-17.4	-28.6	33	2.1	31	7308	-26.4	-35.3	21	14.2	31	7524	-21.2	-34.9	26	12.5	31	7583	-17.4	-28.6	33	2.1
350	31	294	-9.0	-19.4	31	6.0	31	160	-9.0	-19.0	24	4.8	31	8498	-28.4	-48.0	26	13.9	31	8574	-24.3	-35.3	32	2.0	31	8267	-33.1	-40.8	21	15.4	31	8498	-28.4	-48.0	26	13.9	31	8574	-24.3	-35.3	32	2.0
300	31	294	-11.0	-22.4	31	6.0	31	160	-11.0	-22.0	24	4.9	31	9582	-37.0	-68.0	26	14.9	31	9675	-32.8	-42.7	31	3.5	31	9321	-40.8	-48.0	22	15.9	31	9582	-37.0	-68.0	26	14.9	31	9675	-32.8	-42.7	31	3.5
250	31	294	-13.0	-25.4	31	6.0	31	160	-13.0	-25.0	24	4.9	31	10817	-46.0	-82.0	26	16.2	31	10932	-42.8	-54.0	30	3.3	31	10533	-48.5	-54.0	22	16.7	31	10817	-46.0	-82.0	26	16.2	31	10932	-42.8	-54.0	30	3.3
200	31	294	-15.0	-30.4	31	6.0	31	160	-15.0	-30.0	24	4.9	31	12268	-57.2	-98.0	26	19.0	31	12400	-54.0	-66.0	31	8.0	31	11982	-52.0	-66.0	23	13.1	31	12268	-57.2	-98.0	26	19.0	31	12400	-54.0	-66.0	31	8.0
150	31	294	-17.0	-35.4	31	6.0	31	160	-17.0	-35.0	24	4.9	31	13104	-61.2	-108.0	26	18.6	31	13246	-59.8	-71.0	31	8.3	31	12839	-52.3	-71.0	23	11.1	31	13104	-61.2	-108.0	26	18.6	31	13246	-59.8	-71.0	31	8.3
100	31	294	-19.0	-40.4	31	6.0	31	160	-19.0	-40.0	24	4.9	31	14018	-63.2	-118.0	26	19.4	31	14196	-66.0	-82.0	31	8.3	31	13836	-52.7	-82.0	23	9.6	31	14018	-63.2	-118.0	26	19.4	31	14196	-66.0	-82.0	31	8.3
50	31	294	-21.0	-45.4	31	6.0	31	160	-21.0	-45.0	24	4.9	31	15018	-69.2	-130.0	26	20.0	31	15287	-71.4	-98.0	31	8.3	31	14510	-53.2	-98.0	23	7.0	31	15018	-69.2	-130.0	26	20.0	31	15287	-71.4	-98.0	31	8.3
0	31	294	-23.0	-50.4	31	6.0	31	160	-23.0	-50.0	24	4.9	31	16018	-73.2	-140.0	26	20.6	31	16267	-73.4	-100.0	31	8.3	31	14912	-52.7	-100.0	23	4.9	31	16018	-73.2	-140.0	26	20.6	31	16267	-73.4	-100.0	31	8.3
10	31	294	-25.0	-56.0	31	6.0	31	160	-25.0	-56.0	24	4.9	31	17018	-77.2	-150.0	26	21.2	31	17267	-75.4	-108.0	31	8.3	31	15912	-52.7	-108.0	23	3.4	31	17018	-77.2	-150.0	26	21.2	31	17267	-75.4	-108.0	31	8.3
0	31	294	-27.0	-61.0	31	6.0	31	160	-27.0	-61.0	24	4.9	31	18018	-81.2	-160.0	26	21.8	31	18267	-79.4	-116.0	31	8.3	31	16912	-52.7	-116.0	23	1.9	31	18018	-81.2	-160.0	26	21.8	31	18267	-79.4	-116.0	31	8.3
10	31	294	-29.0	-66.0	31	6.0	31	160	-29.0	-66.0	24	4.9	31	19018	-85.2	-180.0	26	22.4	31	19267	-83.4	-122.0	31	8.3	31	17912	-52.7	-122.0	23	0.9	31	19018	-85.2	-180.0	26	22.4	31	19267	-83.4	-122.0	31	8.3
0	31	294	-31.0	-71.0	31	6.0	31	160	-31.0	-71.0	24	4.9	31	20018	-89.2	-190.0	26	23.0	31	20267	-87.4	-128.0	31	8.3	31	18912	-52.7	-128.0	23	0.9	31	20018	-89.2	-190.0	26	23.0	31	20267	-87.4	-128.0	31	8.3
10	31	294	-33.0	-76.0	31	6.0	31	160	-33.0	-76.0	24	4.9	31	21018	-93.2	-200.0	26	23.6	31	21267	-91.4	-134.0	31	8.3	31	19912	-52.7	-134.0	23	0.9	31	21018	-93.2	-200.0	26	23.6	31	21267	-91.4	-134.0	31	8.3
0	31	294	-35.0	-81.0	31	6.0	31	160	-35.0	-81.0	24	4.9	31	22018	-97.2	-210.0	26	24.2	31	22267	-95.4	-140.0	31	8.3	31	20912	-52.7	-140.0	23	0.9	31	22018	-97.2	-210.0	26	24.2	31	22267	-95.4	-140.0	31	8.3
10	31	294	-37.0	-86.0	31	6.0	31	160	-37.0	-86.0	24	4.9	31	23018	-101.2	-220.0	26	24.8	31	23267	-99.4	-146.0	31	8.3	31	21912	-52.7	-146.0	23	0.9	31	23018	-101.2	-220.0	26	24.8	31	23267	-99.4	-146.0	31	8.3
0	31	294	-39.0	-91.0	31	6.0	31	160	-39.0	-91.0	24	4.9	31	24018	-105.2	-230.0	26	25.4	31	24267	-103.4	-152.0	31	8.3	31	22912	-52.7	-152.0	23	0.9	31	24018	-105.2	-230.0	26	25.4	31	24267	-103.4	-152.0	31	8.3
10	31	294	-41.0	-96.0	31	6.0	31	160	-41.0	-96.0	24	4.9	31	25018	-109.2	-240.0	26	26.0	31	25267	-107.4	-158.0	31	8.3	31	23912	-52.7	-158.0	23	0.9	31	25018	-109.2	-240.0	26	26.0	31	25267	-107.4	-158.0	31	8.3
0	31	294	-43.0	-101.0	31	6.0	31	160	-43.0	-101.0	24	4.9	31	26018	-113.2	-250.0	26	26.6	31	26267	-111.4	-164.0	31	8.3	31	24912	-52.7	-164.0	23	0.9	31	26018	-113.2	-250.0	26	26.6	31	26267	-111.4	-164.0	31	8.3
10	31	294	-45.0	-106.0	31	6.0	31	160	-45.0	-106.0	24	4.9	31	27018	-117.2	-260.0	26	27.2	31	27267	-115.4	-170.0	31	8.3	31	25912	-52.7	-170.0	23	0.9	31	27018	-117.2	-260.0	26	27.2	31	27267	-115.4	-170.0	31	8.3
0	31	294	-47.0	-111.0	31	6.0	31	160	-47.0	-111.0	24	4.9	31	28018	-121.2	-270.0	26	27.8	31	28267	-119.4	-176.0	31	8.3	31	26912	-52.7	-176.0	23	0.9	31	28018	-121.2	-270.0	26	27.8	31	28267	-119.4	-176.0	31	8.3
10	31	294	-49.0	-116.0	31	6.0	31	160	-49.0	-116.0	24	4.9	31	29018	-125.2	-280.0	26	28.4	31	29267	-123.4	-182.0	31	8.3	31	27912	-52.7															

LAWRENCE, OHIO 978 MB										DEL RIO, TEXAS 978 MB										DENVER, COLO. 840 MB										DUDGE CITY, KANS. 925 MB										EL PASO, TEXAS 882 MB									
SURFACE	31	294	17.0	10.3	25	1.6	31	13	22.0	21.3	07	4.2	31	16	19.2	16.8	26	7	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8							
1000	31	294	15.0	8.8	28	4.5	31	160	23.5	22.3	24	5.3	31	160	19.9	15.4	26	1.8	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8							
950	31	294	13.0	7.2	31	6.0	31	160	21.1	19.4	22	2.0	31	160	18.8	14.7	26	3.7	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8							
900	31	294	11.0	5.6	31	6.0	31	160	18.8	16.1	22	1.9	31	160	16.2	11.0	26	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8							
850	31	294	9.0	3.6	31	6.0	31	160	16.1	13.0	23	1.2	31	160	13.6	8.0	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8							
800	31	294	7.0	1.6	31	6.0	31	160	13.6	10.3	23	3.3	31	2594	8.2	-3.4	27	7.0	31	1514	19.0	12.4	29	1.0	31	1403	6.8	-1.9	13	8.6	31	2484	2.3	-5.9	19														
750	31	294	5.0	-0.4	31	6.0	31	160	11.0	7.7	24	2.3	31	160	10.8	6.7	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8							
700	31	294	3.0	-2.4	31	6.0	31	160	8.8	5.5	24	2.3	31	160	8.6	4.5	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8							
650	31	294	1.0	-4.4	31	6.0	31	160	6.6	3.3	24	2.3	31	160	6.4	2.5	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8							
600	31	294	-1.0	-6.4	31	6.0	31	160	4.4	1.1	24	2.3	31	160	4.2	0.5	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8							
550	31	294	-3.0	-8.4	31	6.0	31	160	2.2	-1.1	24	2.3	31	160	2.0	-1.3	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8							
500	31	294	-5.0	-10.4	31	6.0	31	160	0.0	-3.1	24	2.3	31	160	-0.2	-3.3	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8							
450	31	294	-7.0	-12.4	31	6.0	31	160	-2.2	-5.1	24	2.3	31	160	-2.4	-5.3	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8							
400	31	294	-9.0	-14.4	31	6.0	31	160	-4.4	-7.1	24	2.3	31	160	-4.6	-7.3	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8							
350	31	294	-11.0	-16.4	31	6.0	31	160	-6.6	-9.1	24	2.3	31	160	-6.8	-9.3	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8							
300	31	294	-13.0	-18.4	31	6.0	31	160	-8.8	-11.1	24	2.3	31	160	-9.0	-11.3	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8							
250	31	294	-15.0	-20.4	31	6.0	31	160	-11.0	-13.1	24	2.3	31	160	-11.2	-13.3	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8							
200	31	294	-17.0	-22.4	31	6.0	31	160	-13.0	-15.1	24	2.3	31	160	-13.2	-15.3	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8							
150	31	294	-19.0	-24.4	31	6.0	31	160	-15.0	-17.1	24	2.3	31	160	-15.2	-17.3	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8							
100	31	294	-21.0	-26.4	31	6.0	31	160	-17.0	-19.1	24	2.3	31	160	-17.2	-19.3	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8							
50	31	294	-23.0	-28.4	31	6.0	31	160	-19.0	-21.1	24	2.3	31	160	-19.2	-21.3	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8							
0	31	294	-25.0	-30.4	31	6.0	31	160	-21.0	-23.1	24	2.3	31	160	-21.2	-23.3	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8							
31	294	-27.0	-32.4	31	6.0	31	160	-23.0	-25.1	24	2.3	31	160	-23.2	-25.3	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8								
31	294	-29.0	-34.4	31	6.0	31	160	-25.0	-27.1	24	2.3	31	160	-25.2	-27.3	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8								
31	294	-31.0	-36.4	31	6.0	31	160	-27.0	-29.1	24	2.3	31	160	-27.2	-29.3	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8								
31	294	-33.0	-38.4	31	6.0	31	160	-29.0	-31.1	24	2.3	31	160	-29.2	-31.3	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8								
31	294	-35.0	-40.4	31	6.0	31	160	-31.0	-33.1	24	2.3	31	160	-31.2	-33.3	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8								
31	294	-37.0	-42.4	31	6.0	31	160	-33.0	-35.1	24	2.3	31	160	-33.2	-35.3	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8								
31	294	-39.0	-44.4	31	6.0	31	160	-35.0	-37.1	24	2.3	31	160	-35.2	-37.3	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8								
31	294	-41.0	-46.4	31	6.0	31	160	-37.0	-39.1	24	2.3	31	160	-37.2	-39.3	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8								
31	294	-43.0	-48.4	31	6.0	31	160	-39.0	-41.1	24	2.3	31	160	-39.2	-41.3	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8								
31	294	-45.0	-50.4	31	6.0	31	160	-41.0	-43.1	24	2.3	31	160	-41.2	-43.3	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8								
31	294	-47.0	-52.4	31	6.0	31	160	-43.0	-45.1	24	2.3	31	160	-43.2	-45.3	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8								
31	294	-49.0	-54.4	31	6.0	31	160	-45.0	-47.1	24	2.3	31	160	-45.2	-47.3	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8								
31	294	-51.0	-56.4	31	6.0	31	160	-47.0	-49.1	24	2.3	31	160	-47.2	-49.3	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8								
31	294	-53.0	-58.4	31	6.0	31	160	-49.0	-51.1	24	2.3	31	160	-49.2	-51.3	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9.5	16	6.5	31	160	9.6	8.1	16	6.8	31	160	9.6	8.1	16	6.8								
31	294	-55.0	-60.4	31	6.0	31	160	-51.0	-53.1	24	2.3	31	160	-51.2	-53.3	27	4.2	31	1428	18.7	14.3	30	8	31	30	10.8	9																						

1974

1974

Average monthly values

AUGUST 1974

LAKE CHARLES, LA. 1816 MB										LAKE CHARLES, LA. 1816 MB										LAKE CHARLES, LA. 1816 MB										LAKE CHARLES, LA. 1816 MB																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355	360	365	370	375	380	385	390	395	400	405	410	415	420	425	430	435	440	445	450	455	460	465	470	475	480	485	490	495	500	505	510	515	520	525	530	535	540	545	550	555	560	565	570	575	580	585	590	595	600	605	610	615	620	625	630	635	640	645	650	655	660	665	670	675	680	685	690	695	700	705	710	715	720	725	730	735	740	745	750	755	760	765	770	775	780	785	790	795	800	805	810	815	820	825	830	835	840	845	850	855	860	865	870	875	880	885	890	895	900	905	910	915	920	925	930	935	940	945	950	955	960	965	970	975	980	985	990	995	1000	1005	1010	1015	1020	1025	1030	1035	1040	1045	1050	1055	1060	1065	1070	1075	1080	1085	1090	1095	1100	1105	1110	1115	1120	1125	1130	1135	1140	1145	1150	1155	1160	1165	1170	1175	1180	1185	1190	1195	1200	1205	1210	1215	1220	1225	1230	1235	1240	1245	1250	1255	1260	1265	1270	1275	1280	1285	1290	1295	1300	1305	1310	1315	1320	1325	1330	1335	1340	1345	1350	1355	1360	1365	1370	1375	1380	1385	1390	1395	1400	1405	1410	1415	1420	1425	1430	1435	1440	1445	1450	1455	1460	1465	1470	1475	1480	1485	1490	1495	1500	1505	1510	1515	1520	1525	1530	1535	1540	1545	1550	1555	1560	1565	1570	1575	1580	1585	1590	1595	1600	1605	1610	1615	1620	1625	1630	1635	1640	1645	1650	1655	1660	1665	1670	1675	1680	1685	1690	1695	1700	1705	1710	1715	1720	1725	1730	1735	1740	1745	1750	1755	1760	1765	1770	1775	1780	1785	1790	1795	1800	1805	1810	1815	1820	1825	1830	1835	1840	1845	1850	1855	1860	1865	1870	1875	1880	1885	1890	1895	1900	1905	1910	1915	1920	1925	1930	1935	1940	1945	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070	2075	2080	2085	2090	2095	2100	2105	2110	2115	2120	2125	2130	2135	2140	2145	2150	2155	2160	2165	2170	2175	2180	2185	2190	2195	2200	2205	2210	2215	2220	2225	2230	2235	2240	2245	2250	2255	2260	2265	2270	2275	2280	2285	2290	2295	2300	2305	2310	2315	2320	2325	2330	2335	2340	2345	2350	2355	2360	2365	2370	2375	2380	2385	2390	2395	2400	2405	2410	2415	2420	2425	2430	2435	2440	2445	2450	2455	2460	2465	2470	2475	2480	2485	2490	2495	2500	2505	2510	2515	2520	2525	2530	2535	2540	2545	2550	2555	2560	2565	2570	2575	2580	2585	2590	2595	2600	2605	2610	2615	2620	2625	2630	2635	2640	2645	2650	2655	2660	2665	2670	2675	2680	2685	2690	2695	2700	2705	2710	2715	2720	2725	2730	2735	2740	2745	2750	2755	2760	2765	2770	2775	2780	2785	2790	2795	2800	2805	2810	2815	2820	2825	2830	2835	2840	2845	2850	2855	2860	2865	2870	2875	2880	2885	2890	2895	2900	2905	2910	2915	2920	2925	2930	2935	2940	2945	2950	2955	2960	2965	2970	2975	2980	2985	2990	2995	3000	3005	3010	3015	3020	3025	3030	3035	3040	3045	3050	3055	3060	3065	3070	3075	3080	3085	3090	3095	3100	3105	3110	3115	3120	3125	3130	3135	3140	3145	3150	3155	3160	3165	3170	3175	3180	3185	3190	3195	3200	3205	3210	3215	3220	3225	3230	3235	3240	3245	3250	3255	3260	3265	3270	3275	3280	3285	3290	3295	3300	3305	3310	3315	3320	3325	3330	3335	3340	3345	3350	3355	3360	3365	3370	3375	3380	3385	3390	3395	3400	3405	3410	3415	3420	3425	3430	3435	3440	3445	3450	3455	3460	3465	3470	3475	3480	3485	3490	3495	3500	3505	3510	3515	3520	3525	3530	3535	3540	3545	3550	3555	3560	3565	3570	3575	3580	3585	3590	3595	3600	3605	3610	3615	3620	3625	3630	3635	3640	3645	3650	3655	3660	3665	3670	3675	3680	3685	3690	3695	3700	3705	3710	3715	3720	3725	3730	3735	3740	3745	3750	3755	3760	3765	3770	3775	3780	3785	3790	3795	3800	3805	3810	3815	3820	3825	3830	3835	3840	3845	3850	3855	3860	3865	3870	3875	3880	3885	3890	3895	3900	3905	3910	3915	3920	3925	3930	3935	3940	3945	3950	3955	3960	3965	3970	3975	3980	3985	3990	3995	4000	4005	4010	4015	4020	4025	4030	4035	4040	4045	4050	4055	4060	4065	4070	4075	4080	4085	4090	4095	4100	4105	4110	4115	4120	4125	4130	4135	4140	4145	4150	4155	4160	4165	4170	4175	4180	4185	4190	4195	4200	4205	4210	4215	4220	4225	4230	4235	4240	4245	4250	4255	4260	4265	4270	4275	4280	4285	4290	4295	4300	4305	4310	4315	4320	4325	4330	4335	4340	4345	4350	4355	4360	4365	4370	4375	4380	4385	4390	4395	4400	4405	4410	4415	4420	4425	4430	4435	4440	4445	4450	4455	4460	4465	4470	4475	4480	4485	4490	4495	4500	4505	4510	4515	4520	4525	4530	4535	4540	4545	4550	4555	4560	4565	4570	4575	4580	4585	4590	4595	4600	4605	4610	4615	4620	4625	4630	4635	4640	4645	4650	4655	4660	4665	4670	4675	4680	4685	4690	4695	4700	4705	4710	4715	4720	4725	4730	4735	4740	4745	4750	4755	4760	4765	4770	4775	4780	4785	4790	4795	4800	4805	4810	4815	4820	4825	4830	4835	4840	4845	4850	4855	4860	4865	4870	4875	4880	4885	4890	4895	4900	4905	4910	4915	4920	4925	4930	4935	4940	4945	4950	4955	4960	4965	4970	4975	4980	4985	4990	4995	5000	5005	5010	5015	5020	5025	5030	5035	5040	5045	5050	5055	5060	5065	5070	5075	5080	5085	5090	5095	5100	5105	5110	5115	5120	5125	5130	5135	5140	5145	5150	5155	5160	5165	5170	5175	5180	5185	5190	5195	5200	5205	5210	5215	5220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W. ITH. ALASKA 1000 MB										KAPPO, MARSHALL IS. 1010 MB										MEDFORD, OREG. 950 MB										MEXICO, MEXICO 1014 MB										MIAMI, FLA. 1017 MB									
SR. RPT	31	1.5	11.3	8.9	17	2	31	5	28.2	24.1	10	1.8	31	4.1	14.9	9.9	25	1.3	31	11	22.7	22.5	10	7	31	4	26.3	23.4	09	1.3																			
1000	29	1.5	14.0	8.0	24	4	31	4	20.6	23.2	11	2.3	31						31	31	130	24.9	23.5	11	6	31	156	26.0	22.9	11	2.4																		
400	31	573	11.6	6.8	20	2	31	547	23.5	21.4	12	3	31	573	17.7	7.8	27	8	31	181	23.4	19.8	12	6	31	607	22.6	20.8	12	4																			
900	31	1.044	9.0	4.5	19	3	31	1.019	20.6	17.6	12	3	31	1.035	17.0	6.1	29	1	31	1.033	21.0	15.2	12	6	31	1.078	19.6	16.6	13	4.8																			
850	31	1.048	8.8	2.2	20	3	31	1.051	17.7	14.2	11	4	31	1.052	14.9	3.9	31	1	31	1.046	18.1	10.4	12	6	31	1.051	19.7	12.7	13	4.2																			
800	31	1.059	2.9	4.1	13	3	31	2.030	20.2	10.7	10	4	31	2.043	17.1	2.4	25	3	31	2.046	18.5	4.5	11	5	31	2.088	18.3	8.4	12	3																			
750	31	2.041	1	46.6	22	4	31	2.075	12.6	7.2	14	4	31	2.074	10.8	0.6	32	3	31	2.068	12.5	1.0	11	5	31	2.068	11.4	4.1	13	3.3																			
700	31	3.060	-2.9	8.3	22	3	31	3.152	9.6	5.3	10	5	31	3.145	7.1	0.9	25	1	31	3.183	9.0	-4.8	11	5	31	3.202	8.2	0	12	3																			
650	31	3.064	-6.6	-12.1	21	3	31	3.765	0.2	2	10	5	31	3.770	3.0	-13.0	25	3	31	3.793	5.2	-0.6	11	4	31	3.810	4.7	-5.0	11	2.8																			
600	31	4.267	-5.5	-18.1	22	3	31	4.418	2.7	-3.0	09	5	31	4.393	-1.3	-17.7	25	4	31	4.442	1.3	-0.8	10	4	31	4.459	1.7	-9.6	12	2.9																			
550	31	-9.935	-1.2	-22.4	23	3	31	9.118	-9	-7.4	09	6	31	9.091	-6.0	-21.2	25	5	31	9.138	-2.7	-14.4	10	4	31	9.152	-3.4	-15.2	12	2.6																			
500	31	5.074	-1.7	-26.8	23	4	31	5.871	-9.7	-12.4	06	5	31	5.843	-12.5	-25.9	25	3	31	5.888	-7	-21.2	09	4	31	5.900	-8.1	-21.0	11	2.4																			
450	31	6.0435	-22.8	-32.4	24	5	31	6.637	-9.4	-18.6	10	5	31	6.619	-17.1	-32.2	26	7	31	6.7-2	-12.2	-25.7	08	4	31	6.711	-13.1	-25.5	10	2.4																			
400	31	7.028	-1.9	-36.3	24	7	31	7.558	-15.4	-24.3	10	5	31	7.490	-23.9	-38.1	26	8	31	7.592	-18.1	-31.9	08	4	31	7.599	-18.9	-32.1	09	2.8																			
350	31	8.234	-35.6	-62.8	25	9	31	8.957	-22.1	-31.9	10	5	31	8.454	-31.3	-46.3	26	9	31	8.579	-25.0	-37.6	07	2	31	8.583	-26.0	-38.3	08	3																			
300	31	9.205	-38.8	-64.6	24	11	31	9.709	-30.3	-41.1	10	4	31	9.523	-39.8	-49.4	25	10	31	9.679	-33.4	-45.5	06	2	31	9.677	-34.4	-40.8	07	3																			
250	31	10.473	-51.0	25	13	4	31	10.973	-40.7	-48.8	10	4	31	10.745	-49.2	25	12	31	10.932	-43.4	4	5	2	31	10.925	-44.7																							
200	31	11.764	-51.8	26	10	3	31	12.457	-53.4	4	10	4	31	12.187	-56.6	4	2	31	12.400	-55.2	2	1	0	31	12.392	-56.4																							
175	31	12.803	-57	26	7	3	31	13.304	-59.9	4	35	3	31	13.025	-57.5	5	4	31	13.236	-61.4	3	0	3	31	13.216	-62.3																							
150	31	13.73	-51.1	26	5	3	31	14.250	-67.4	32	3	3	31	13.998	-57.7	26	13	31	14.178	-67.3	29	4	31	14.156	-66.9																								
125	31	14.952	-51.5	26	4	3	31	15.530	-76.4	27	4	3	31	15.144	-59.6	26	10	31	15.267	-70.3	32	2	31	15.249	-69.4																								
100	29	16.447	-51.5	27	2	2	31	16.611	-78.2	25	2	3	31	16.234	-60.8	26	6	30	16.589	-71.4	3	4	3	31	16.580	-69.3																							
75	31	17.989	-51.5	27	1	2	31	17.906	-71.5	09	5	1	31	17.725	-59.6	27	2	31	17.916	-68.2	1	08	31	17.921	-66.7																								
70	31	18.763	-51.5	32	1	2	31	18.673	-56.4	05	10	3	31	18.673	-56.4	27	7	31	18.727	-66.4	1	08	31	18.731	-66.4																								
60	29	19.775	-50.4	34	5	3	31	19.633	-65.9	09	10	3	31	19.736	-56.4	4	6	1	0	19.661	-64.0	5	12	30	19.677	-62.5																							
50	29	20.965	-49.7	34	1	8	3	20.748	-60.1	09	15	3	31	20.701	-54.6	38	2	27	20.788	-60.2	3	19	3	30	20.812	-58.9																							
40	29	22.425	-49.4	39	2	1	8	22.133	-63.0	09	24	3	30	22.332	-53.1	38	4	22	22.190	-57.2	09	16	2	29	22.223	-55.9																							
30	29	24.306	-46.8	39	2	1	6	23.946	-55.3	09	38	3	30	24.197	-50.6	38	7	23	24.028	-53.3	09	18	6	29	24.070	-52.4																							
25	29	25.524	-46.8	39	3	1	6	25.118	-52.3	09	35	2	30	25.393	-49.3	38	8	1	26	25.208	-51.6	09	19	1	27	25.253	-50.4																						
20	11	27.001	-45.0	07	3	3	3	27.573	-46.4	09	32	2	30	27.873	-46.4	38	9	0	28.068	-47.3	09	20	6	29	28.116	-46.7																							
15							3	28.842	-46.4	00	37	3	29	28.773	-44.4	39	10	1	28.556	-47.3	09	19	7	21	28.621	-45.8																							
10							3	31.220	-41.6	00	45	3	29	31.511	-40.3	39	11	5	31.257	-43.9	09	18	8	31	31.322	-41.6																							

MILANO, TEXAS 974 MB										MONTERREY, MEXICO 953 MB										MORRETT, MO. 966 MB										MONTGOMERY, ALA. 1011 MB										NASHVILLE, TENN. 997 MB									
S	FACE	31	974	20.9	16.1	1.7	1.5	27	423	22.9	19.9	1.2	1.6	31	438	18.9	16.9	1.6	1.7	31	57	21.6	20.5	1.3	1.5	31	180	20.1	19.2	1.7	1.3																		
980	31	1031	20.8	17.0	1.7	3.9	27	571	22.2	18.9	1.2	3.1	31	532	20.8	17.6	2.1	3.1	31	155	21.9	20.9	1.6	1.8	31	599	21.1	16.7	2.3	3.4																			
985	31	1525	19.3	12.7	1.9	7.2	27	1039	18.9	17.6	1.4	4.3	31	1051	19.8	14.1	2.4	6.4	31	806	22.1	18.3	2.0	2.2	31	1067	18.7	14.4	2.5	4.6																			
990	31	2066	16.6	7.3	1.9	4.1	27	2051	17.4	4.1	1.4	6.1	31	2057	14.0	5.3	2.6	5.6	31	1563	16.3	11.6	2.2	2.3	31	1556	15.5	11.0	2.5	4.9																			
1000	31	2559	13.4	3.0	1.7	5.1	27	2559	14.0	0.15	4.6	31	2599	10.7	4.26	4.0	5.1	31	2078	15.4	8.4	2.2	2.6	31	2008	12.3	7.1	2.5	4.6																				
1010	31	3170	9.1	-1.4	1.4	4.1	27	3171	-2.5	1.5	2.0	31	3170	7.3	-2.26	3.1	6.9	31	2619	10.1	4.7	2.3	2.8	31	2407	9.2	2.3	2.5	4.9																				
1020	31	3781	5.4	-5.3	1.3	1.8	27	3789	5.7	-4.7	2.5	2.3	31	3777	3.3	-7.1	2.6	4.0	31	3190	6.4	-6.5	2.4	2.7	31	3176	6.4	-4.4	2.5	5.0																			
1030	31	4390	1.0	-9.4	1.4	1.3	27	4399	1.4	-10.2	3.3	6.3	31	4421	-7.7	-11.9	2.7	4.7	31	3795	3.2	-4.2	2.5	2.7	31	3180	2.7	-5.4	2.5	5.6																			
1040	31	5124	-3.1	-14.3	1.5	1.1	27	5134	-3.2	-14.4	1.0	4.3	31	5111	-4.8	-16.0	2.7	4.8	31	4440	-4.2	-8.5	2.6	2.9	31	4424	-1.1	-9.4	2.5	6.3																			
1050	31	5873	-7.2	-16.5	2.2	1.3	27	5882	-7.7	-21.1	1.0	1.4	31	5855	-8.8	-22.4	2.7	5.9	31	5133	-4.0	-13.8	2.6	3.9	31	5114	-4.9	-13.0	2.5	6.8																			
1060	31	6598	-12.7	-25.3	2.7	2.6	27	6596	-12.7	-26.1	0.9	1.8	31	6584	-14.1	-29.1	2.7	8.3	31	5879	-8.3	-19.7	2.7	4.3	31	5858	-9.1	-20.8	2.6	6.9																			
1070	31	7574	-18.3	-32.8	2.8	4.1	27	7584	-18.3	-32.8	2.8	2.8	31	7587	-20.3	-34.5	2.7	6.9	31	6690	-13.1	-25.0	2.7	4.3	31	6686	-14.1	-25.9	2.6	7.8																			
1080	31	8349	-23.6	-38.5	2.8	5.5	27	8371	-25.2	-37.8	0.4	2.8	31	8324	-27.0	-41.7	2.7	8.6	31	7577	-17.3	-34.9	2.7	6.3	31	7551	-20.0	-42.0	2.7	9.8																			
1090	31	9565	-34.2	-46.2	2.7	7.7	27	9569	-33.6	-45.3	0.1	4.3	31	9561	-36.2	-48.8	2.7	13.2	31	8560	-26.2	-36.9	2.0	6.0	31	8530	-27.2	-38.6	2.7	7.5																			
1100	31	10394	-46.2		2.8	10.2	27	10392	-43.7		0.6	6.2	31	10382	-45.4		2.7	12.7	31	10900	-44.8		2.6	7.2	31	10861	-45.1		2.7	12.8																			
1110	31	12306	-5		2.9	11.1	27	12305	-55.4		0.1	8.0	31	12306	-55.3		2.7	16.3	31	12356	-56.0		2.7	7.7	31	12314	-55.7		2.7	14.0																			
1120	31	13204	-60.7		2.9	11.7	27	13222	-60.7		0.2	8.0	31	13150	-59.3		2.8	16.0	31	13196	-61.8		2.7	6.8	31	13151	-60.1		2.7	13.9																			
1130	31	14033	-65.5		3.0	12.7	27	14071	-66.4		0.2	6.9	31	14109	-62.5		2.9	13.2	31	140137	-66.5		2.9	4.6	31	14109	-65.3		2.7	10.7																			
1140	31	15248	-70.2		3.1	8.5	27	15261	-71.3		0.3	5.8	31	15228	-64.7		2.8	8.9	31	15235	-68.1		3.3	1.7	31	15224	-65.4		2.7	6.8																			
1150	31	16575	-76.6		3.6	1.6	27	16576	-71.3		0.4	6.2	31	16587	-65.1		2.7	4.8	31	16573	-67.9		0.6	1.4	31	16578	-65.6		2.6	3.7																			
1160	31	17915	-65.7		3.4	3.2	27	17905	-68.2		0.7	8.4	31	17955	-62.6		2.9	9.1	31	17926	-64.2		0.8	3.6	31	17942	-63.0		0.1	1.0																			
1170	31	18775	-63.2		3.4	2.7	27	18781	-65.1		0.8	10.8	31	18783	-60.2		2.7	1.1	31	18774	-61.8		0.7	1.3	31	18770	-60.5		0.7	2.1																			
1180	31	19685	-61.7		3.9	8.2	27	19657	-63.3		0.9	12.7	31	19530	-58.1		2.9	3.6	31	19707	-58.1		0.9	7.8	31	19735	-58.4		0.6	1.1																			
1190	31	20887	-58.3		3.9	10.3	27	20765	-60.8		0.9	14.4	31	20906	-55.7		0.9	5.6	31	20855	-57.4		0.9	9.3	31	20889	-56.2		0.9	6.5																			
1200	31	22244	-55.0		3.9	12.2	27	22180	-58.3		0.9	16.8	31	22335	-53.7		0.9	7.4	31	22273	-54.9		0.9	12.3	31	22315	-53.4		0.9	9.2																			
1210	31	24091	-57.3		3.9	13.5	27	24008	-58.1		0.9	18.2	31	24195	-51.1		0.9	9.7	31	24131	-51.4		0.9	15.3	31	24174	-51.0		0.9	11.6																			
1220	31	25276	-50.7		3.9	14.5	27	25077	-50.7		0.9	23.9	31	25336	-49.3		0.9	11.3	31	25320	-44.5		0.9	14.3	31	25328	-47.8		0.9	12.6																			
1230	31	26744	-47.1		3.9	17.4	27	26540	-49.6		0.9	29.8	31	26849	-47.2		0.9	13.7	31	26828	-47.2		0.9	17.8	31	26883	-47.0		0.9	11.1																			
1240	31	28536	-44.7		3.9	17.9	25	28528	-43.0		0.6	21.5	26	28778	-44.5		0.9	15.0	17	28858	-44.5		0.9	17.6	28	28754	-44.6		0.9	15.9																			
1250	31	31351	-61.7		2.2	22	31222	-48.6		0.9	26.1	10	31316	-39.5											12	31496	-40.5																						

RAWINSONDE DATA

Average monthly values

NORTH PLATTE, NEBR.										DARWIN, CALIF.										PORTLAND, ORE.										QUILLAYUTE, WASH.									
1013 MB										1013 MB										906 MB										1013 MB									
Residual Wind										Residual Wind										Residual Wind										Residual Wind									
No. of observations										No. of observations										No. of observations										No. of observations									
Standard pressure surface (mb.)										Standard pressure surface (mb.)										Standard pressure surface (mb.)										Standard pressure surface (mb.)									
Dynamic height										Dynamic height										Dynamic height										Dynamic height									
Temperature										Temperature										Temperature										Temperature									
Dew Point										Dew Point										Dew Point										Dew Point									
Direction										Direction										Direction										Direction									
Speed (mph.)										Speed (mph.)										Speed (mph.)										Speed (mph.)									
No. of observations										No. of observations										No. of observations										No. of observations									
Standard pressure surface (mb.)										Standard pressure surface (mb.)										Standard pressure surface (mb.)										Standard pressure surface (mb.)									
Dynamic height										Dynamic height										Dynamic height										Dynamic height									
Temperature										Temperature										Temperature										Temperature									
Dew Point										Dew Point										Dew Point										Dew Point									
Direction										Direction										Direction										Direction									
Speed (mph.)										Speed (mph.)										Speed (mph.)										Speed (mph.)									
No. of observations										No. of observations										No. of observations										No. of observations									
Standard pressure surface (mb.)										Standard pressure surface (mb.)										Standard pressure surface (mb.)										Standard pressure surface (mb.)									
Dynamic height										Dynamic height										Dynamic height										Dynamic height									
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Dew Point										Dew Point										Dew Point										Dew Point									
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Speed (mph.)										Speed (mph.)										Speed (mph.)										Speed (mph.)									
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Standard pressure surface (mb.)										Standard pressure surface (mb.)										Standard pressure surface (mb.)										Standard pressure surface (mb.)									
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Dew Point										Dew Point										Dew Point										Dew Point									
Direction										Direction										Direction										Direction									
Speed (mph.)										Speed (mph.)										Speed (mph.)										Speed (mph.)									
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Standard pressure surface (mb.)										Standard pressure surface (mb.)										Standard pressure surface (mb.)										Standard pressure surface (mb.)									
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Dew Point										Dew Point										Dew Point										Dew Point									
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Dew Point										Dew Point										Dew Point										Dew Point									
Direction										Direction										Direction										Direction									
Speed (mph.)										Speed (mph.)										Speed (mph.)										Speed (mph.)									
No. of observations										No. of observations										No. of observations										No. of observations									
Standard pressure surface (mb.)										Standard pressure surface (mb.)										Standard pressure surface (mb.)										Standard pressure surface (mb.)									
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Dew Point										Dew Point										Dew Point										Dew Point									
Direction										Direction										Direction										Direction									
Speed (mph.)										Speed (mph.)										Speed (mph.)										Speed (mph.)									
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Standard pressure surface (mb.)										Standard pressure surface (mb.)										Standard pressure surface (mb.)										Standard pressure surface (mb.)									
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Dew Point										Dew Point										Dew Point										Dew Point									
Direction										Direction										Direction										Direction									
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Standard pressure surface (mb.)										Standard pressure surface (mb.)										Standard pressure surface (mb.)										Standard pressure surface (mb.)									
Dynamic height										Dynamic height										Dynamic height										Dynamic height									
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Dew Point										Dew Point										Dew Point										Dew Point									
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Average monthly value

— 200 —

		* TUCSON, ARIZ. 923 MB				* VAN DUSEN AFB, CALIF. 1002 MB				* VICTORIA, TEXAS 1011 MB				* WAKE IS., PACIFIC AREA 1013 MB				* WALLACE IS., VA, NASA 1018 MB													
SPACE	31	789	23.0	12.5	15	2.5	27	100	13.8	12.4	32	1.1	31	93	23.0	22.7	11	7	31	5	26.0	23.1	09	5.0	31	4	22.1	21.7	20	4.9	
1000							27	100	13.8	12.4	32	1.6	31	93	23.0	22.7	11	7	31	5	26.0	23.1	09	5.0	31	4	22.1	21.7	20	4.9	
900							27	100	13.8	12.4	32	1.6	31	93	23.0	22.7	11	7	31	5	26.0	23.1	09	5.0	31	4	22.1	21.7	20	4.9	
800	31	1,011	25.1	11.7	17	2.5	27	1,017	25.4	11.7	17	2.9	31	1,049	26.6	15.1	19	7.9	31	1,041	20.3	10.6	10	6.0	31	1,075	18.0	12.2	24	1.2	
700	31	1,511	22.7	8.8	23	1.2	27	1,512	20.9	8.8	23	1.2	31	1,542	18.0	10.2	18	6.7	31	1,533	17.3	13.6	10	5.7	31	1,563	15.3	8.6	26	1.9	
600	31	2,736	19.2	5.5	31	1.7	27	2,023	17.8	5.5	31	1.7	31	2,060	15.1	5.5	18	5.1	31	2,049	14.7	10.0	10	5.6	31	2,076	12.9	5.9	26	3.1	
500	31	2,268	15.1	2.9	24	2.0	27	2,581	14.4	2.9	24	2.0	31	2,604	11.7	2.0	18	3.8	31	2,594	11.9	5.7	10	5.6	31	2,615	9.6	2.2	26	4.7	
400	31	3,167	10.5	1.35	1.1	2.7	27	3,160	10.6	1.35	1.1	2.7	31	3,177	8.0	1.4	18	3.0	31	3,169	8.9	6.0	10	5.7	31	3,185	6.2	-2.6	26	5.4	
300	31	3,765	5.9	-2.5	1.2	2.7	27	3,772	6.0	-2.8	1.2	2.7	31	3,786	4.4	-2.4	19	2.6	31	3,780	5.7	-5.3	09	5.3	31	3,789	3.0	-4.9	26	6.0	
200	31	4,423	1.9	-6.2	0.2	2.7	27	4,430	2.0	-6.5	0.2	2.7	31	4,443	-0.9	-9.9	0.9	2.6	31	4,436	1.9	-9.8	0.9	4.9	31	4,443	0.2	-1.9	26	7.1	
100	31	5,125	-3.4	-13.9	0.5	2.7	27	5,122	-2.1	-20.8	0.6	2.3	31	5,128	-3.3	-13.9	1.9	2.6	31	5,127	-1.2	-12.5	0.9	5.0	31	5,125	-4.5	-14.2	25	7.4	
50	31	5,873	-8.0	-19.4	0.1	1.8	27	5,872	-7.4	-26.3	0.5	4.0	31	5,876	-7.4	-21.0	2.1	4.9	31	5,878	-6.9	-20.4	0.8	3.8	31	5,870	-8.8	-20.3	24	8.3	
450	31	6,064	-12.5	-27.5	3.0	4.6	27	6,068	-13.1	-30.6	2.4	7.1	31	6,089	-12.4	-25.6	2.3	7.3	31	6,093	-11.9	-25.5	0.8	3.2	31	6,079	-13.9	-26.7	25	8.6	
400	31	7,574	-18.3	-33.3	3.7	7.5	27	7,570	-19.7	-36.5	2.5	9.3	31	7,579	-18.3	-30.4	2.7	4.3	31	7,564	-17.8	-30.7	0.6	2.5	31	7,563	-19.9	-32.6	25	8.8	
350	31	8,560	-25.6	-40.3	4.0	9.1	27	8,549	-27.2	-43.0	2.5	11.5	31	8,566	-25.4	-36.4	3.2	1.0	31	8,572	-24.6	-36.8	0.3	2.2	31	8,543	-26.8	-39.1	25	9.7	
300	31	9,955	-34.3	-47.8	2.9	11.5	27	9,938	-35.8	-49.3	2.5	14.8	31	9,963	-33.8	-45.6	3.4	2.1	31	9,973	-32.6	-45.2	3.5	2.5	31	9,934	-35.2	-46.8	26	11.2	
250	31	10,905	-33.6				25	10,885	-34.5			25	10,914	-33.8			34	3.4	31	10,929	-43.0		34	5.8	31	10,905	-33.6			27	14.1
200	31	12,371	-50.1				28	12,337	-54.7			25	12,376	-55.2			35	4.6	31	12,363	-55.2		32	9.3	30	12,330	-50.7			27	14.1
175	31	13,216	-60.1				28	13,182	-59.3			25	13,218	-60.9			35	5.2	31	13,232	-60.2		32	9.2	29	13,167	-61.8			27	13.6
150	31	14,165	-65.8				27	14,137	-63.5			25	14,171	-65.8			34	5.2	31	14,189	-69.2		33	8.9	29	14,113	-66.8			27	10.8
125	31	15,529	-70.2				27	15,528	-66.8			25	15,401	-70.0			31	5.8	31	15,244	-69.4		01	7.1	29	15,225	-66.9			27	8.8
100	31	16,582	-70.4				30	16,592	-70.4			26	16,581	-70.1			06	4.3	31	16,542	-72.4		06	6.5	29	16,585	-64.7			28	5.6
80	31	17,914	-66.2				08	17,945	-64.3			07	17,924	-66.0			08	5.4	31	17,861	-70.9		08	9.9	29	17,957	-61.9			16	4.4
60	31	18,674	-63.9				09	18,706	-61.7			09	18,739	-64.1			08	8.2	30	18,661	-67.1		08	12.9	29	18,654	-61.4			16	8.9
40	31	19,662	-61.0				09	19,678	-59.4			09	19,699	-61.4			08	8.4	30	19,589	-61.4		09	12.8	28	19,758	-57.7			09	2.0
20	31	20,825	-57.9				09	20,826	-57.4			09	20,829	-59.2			08	12.4	29	20,717	-62.1		09	10.7	27	20,915	-55.4			09	5.4
30	29	22,230	-56.5				09	22,236	-54.8			09	22,236	-56.6			09	13.7	27	22,106	-59.1		09	21.2	27	22,245	-53.2			09	8.4
30	29	24,075	-53.5				09	24,145	-52.6			09	24,078	-52.8			09	17.0	26	23,927	-55.6		09	24.8	27	24,213	-50.1		10	10.5	
20	29	25,254	-51.6				09	25,332	-50.8			09	25,261	-50.5			09	17.9	24	25,059	-53.0		09	26.2	27	25,408	-48.7			09	13.4
20	29	26,710	-48.9				09	26,790	-48.9			09	26,725	-48.3			09	19.0	27	26,550	-50.2		09	27.2	25	26,881	-40.4			09	11.6
15	29	28,613	-45.7				09	28,691	-46.0			09	28,623	-45.9			09	19.7	18	28,443	-47.3		09	25.6	23	28,805	-43.8			09	14.0
10	29	31,364	-42.5				09	31,441	-42.0			09	31,377	-43.0			09	19.0	18	31,149	-46.4		09	21.1	21	31,499	-42.0				
7							14	33,864	-36.4																						

Average monthly values

AUGUST 1944

[illegible]

SOLAR RADIATION INTENSITIES

Tabulated in langley's per minute on a surface normal to the direction of the sun.

AUGUST 1974

Date	Sun's zenith distance								
	A M				*	P M			
	78 7°	75 7°	70 7°	60 0°		60 0°	70 7°	75 7°	78 7°
ALBUQUERQUE, N. MEX.									
Air mass									
	4 19	3.35	2.51	1.67		1.67	2.51	3.35	4.19
1-----	-----	-----	-----	-----	-----	-----	(.87)	-----	-----
4-----	-----	-----	-----	-----	(1.76)	-----	-----	-----	-----
5-----	.59	.70	.88	1.09	1.33	1.10	-----	.84	.76
6-----	-----	-----	(.84)	(1.05)	1.29	-----	-----	.93	.84
7-----	.74	(.86)	.96	1.11	1.35	-----	.94	.79	.72
8-----	-----	-----	-----	-----	1.36	(1.29)	(.94)	.84	(.73)
9-----	.74	.83	.96	1.12	1.34	(1.16)	1.04	.92	.84
10-----	.80	.94	1.00	1.16	1.35	(1.01)	(.80)	-----	-----
11-----	.78	.89	.99	-----	1.33	-----	-----	-----	-----
12-----	.83	.93	1 04	1.19	-----	1.20	1.05	.92	.81
13-----	-----	.87	-----	-----	-----	1.16	1.04	.92	.84
14-----	.84	.93	1.06	1.20	1.36	-----	-----	-----	-----
15-----	-----	-----	-----	1.14	1.39	-----	-----	-----	-----
16-----	.83	.93	1.03	1.19	1.37	1.18	1.03	-----	-----
17-----	.80	.90	1.01	1.14	1.35	-----	-----	-----	-----
18-----	.84	.94	1.05	1.19	-----	-----	-----	-----	-----
19-----	-----	-----	-----	-----	-----	-----	1.00	.86	-----
20-----	-----	-----	-----	-----	1.33	-----	-----	.91	.79
21-----	.86	.94	1.07	1.22	1.39	(1.21)	-----	-----	-----
23-----	(.79)	(.89)	(1.03)	(1.17)	(1.30)	-----	-----	-----	-----
28-----	-----	-----	.94	(1.13)	(1.29)	-----	(.96)	(.82)	-----
29-----	.80	.89	1.02	1.19	1.34	1.16	.96	.82	-----
30-----	.78	.88	1.00	1.16	1.35	1.15	.97	-----	-----
31-----	.65	.79	.93	1.10	1.30	-----	-----	-----	-----
Aver- ages	.78	.88	1.00	1.16	1.35	1.16	1.00	.88	.80

MAUNA LOA OBSERVATORY, HAWAII									
	Air mass								
	3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36
1-----	1.15	1.23	1.33	1.42	1.60				
3-----			1.39	1.47	1.60	1.44	1.34	1.25	1.15
4-----	1.27			1.50	1.62		1.36		
5-----					1.59				
6-----					1.56				
7-----				1.27					
11-----	1.15	1.22	1.30				1.22		
12-----			1.27	1.37	1.53				
18-----	1.17	1.25	1.34	1.43					
19-----	1.09	1.19	1.29	1.41					
22-----	1.17	1.26	1.35	1.45					
23-----	1.10	1.21	1.32	1.44					
25-----	1.18	1.28	1.37	1.48	1.58		1.33	1.24	1.18
26-----	1.20	1.27	1.37	1.47					
27-----	1.18	1.26	1.35	1.46		1.44	1.34	1.23	1.14
28-----	1.20	1.28	1.37	1.48	1.60	1.45	1.36	1.28	1.21
29-----	1.21	1.30	1.38	1.49	1.62	1.47	1.38	1.30	1.23
30-----	1.14	1.22	1.32	1.43		1.44	1.33	1.26	1.18
31-----	1.18	1.26	1.36	1.47					
Aver- ages	1.17	1.25	1.34	1.45	1.59	1.45	1.35	1.25	1.18

OMAHA, NEBR.									
	Air mass								
	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
NO DATA RECEIVED									

Sun's zenith distance									
Date	A M				*	P M			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
MADISON, WIS.									
	Air mass								
	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
5----	----	----	----	1.06	S 1.22	----	----	----	----
14----	----	----	----	----	----	S 1.07	----	----	----
17----	S .83	.95	S 1.04	----	----	----	----	----	----
18----	S .80	.89	S 1.01	1.14	----	S 1.08	----	----	----
19----	----	----	S .94	S 1.09	1.29	S 1.12	S .94	S .79	S .61
25----	----	----	----	S 1.00	1.20	----	----	----	----
30----	S .83	S .94	S 1.07	S 1.03	----	----	----	----	----
Aver- ages	.82	.93	1.02	1.06	1.18	1.09	.94	.79	.61

TUCSON, ARIZ.									
	Air mass								
	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
1-----		.76	.86	1.05	1.32	1.01	.78		
5-----	.66	.75	.87	1.04					
6-----	.73	.81	.96	1.10	1.27	1.10	.94	.86	
7-----	.76	.85	.97	1.11	1.30	1.10	.91	.76	
8-----	.66	.76	.91	1.11			.87		
9-----	.55	.68	.88	1.08	1.42	1.18		.85	.79
10-----	.75	.87	.98	1.12	1.36		1.04	.92	.79
11-----	.77	.88	1.01	1.17	1.34				.67
12-----	.76	.87	.99	1.14	1.35	1.12	1.00	.88	.78
13-----	.77	.85	.97	1.08	1.35	1.06	.86	.77	
14-----	.65	.76	.87	1.06	1.31				
15-----	.67	.77	.90	1.07		1.09	.93		
16-----	.72	.81	.94	1.11	1.32	1.06		.76	.64
17-----	.74	.83	.97	1.13	1.34	1.06	.87	.76	.68
19-----	.76	.86	1.00	1.16	1.36	1.15	1.00	.83	.75
20-----	.87	.92	1.06	1.19	1.37	1.21	1.04	.94	.83
21-----	.68	.78	.93	1.11	1.34	1.17	1.06	.95	.86
22-----	.65	.76	.90	1.08		1.00	.85		
23-----	.75	.84	.98	1.15	1.35	1.09		.74	.62
24-----					1.36	1.16	1.02	.88	.79
25-----	.72	.80	.92	1.09	1.29	1.11	.93	.79	.69
26-----	.70	.79	.92	1.10	1.34	1.11	.93	.79	.69
27-----	.66	.76	.89	1.08	1.35	1.11	.93	.76	.66
28-----	.69	.78	.92	1.07	1.33	1.13	.94	.79	.71
29-----	.72	.82	.95	1.14	1.36	1.12	.94	.79	.69
30-----	.63	.75	.87	1.06	1.31	1.03	.82	.65	.55
31-----	.55	.67	.80	.99	1.22	1.00	.79	.68	.55
Aver- ages	.70	.80	.93	1.10	1.33	1.10	.93	.81	.71

NET RADIATION

Net radiation in langbeys per day (8 a.m. to 8 a.m.) at Palmer, Alaska.

August 1974

Date . . .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langbeys . .	161	218	113	228	155	119	63	145	117	204	164	150	194	211	193	216	185	183	63	175	152	132	170	39	83	52	1	174	57	130	134	145

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average (2900 Å) at Ames, Iowa.

Date . . .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langbeys . .																																

NO DATA RECEIVED

TOTAL OZONE DATA

These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code 182000 defined in the August 1962 WMO circular entitled PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA.

Units: Milli-atmospheres

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.

NO DATA RECEIVED

REFERENCE NOTES

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES:

Dates in the table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

+ And also on an earlier date or dates.

D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch of water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA - METRIC UNITS: Data from airport unless otherwise specified.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile data can be evaluated.

B Number of days maximum 21.1°C. or above for Alaskan Stations.

Y Peak Gust.

+ And also on an earlier date or dates.

U Indicates Urban site.

R Indicates Rural site.

Ø Station pressures apply to elevations shown in the "Elevations" table of the annual issue of this publication.

Conversion formulae to English Units are as follows:

1 foot = 0.3048 meters

°F. = $\frac{9}{5} \times ^\circ\text{C} + 32$

1 inch = 25.4 millimeters

1 mile per hour = 0.447 meters per second

HEATING DEGREE DAYS: Data from airport unless otherwise specified.

U Indicates Urban site.

R Indicates Rural site.

COOLING DEGREE DAYS: Data from airport unless otherwise specified.

U Indicates Urban site.

R Indicates Rural site.

STORM SUMMARY:

° Includes crop damage.

C Crop damage.

* No occurrence of storms or unusual weather phenomena reported.

@ Includes heavy sleet storm.

Freezing drizzle and freezing rain, commonly known as glaze.

Ø For breakdown of "All Others," and for detailed listing of other storms, see the Environmental Data Service, NOAA, monthly publication STORM DATA.

‡ No Storm Data Report received for this State.

<> Report Incomplete.

† Storm damages are placed in categories varying from 1 to 9 as follows:

1 Less than \$50

2 \$50 to \$500

3 \$500 to \$5,000

4 \$5,000 to \$50,000

5 \$50,000 to \$500,000

6 \$500,000 to \$5 Million

7 \$5 Million to \$50 Million

8 \$50 Million to \$500 Million

9 \$500 Million to \$5 Billion.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS:

1/ Flooding continued at the end of the month.

NA Not available.

FLOOD STAGE DATA:

Highest Stage Observed

1/ Continued at end of month

— Highest Stage of Record

E Estimated

P Provisional (Flood Stage)

U Unknown

RAWINSONDE DATA (Average Monthly Values):

All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygrometers. These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.

+ Observations for these stations are scheduled at 0000 G.C.T.

† Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

REFERENCE NOTES - Continued

SOLAR RADIATION INTENSITIES: Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

()	Clouds Present	DM	Moderate Dust	HM	Moderate Haze	KS	Slight Smoke
*	Values corresponding to true solar noon	DS	Slight Dust	HS	Slight Haze	M	Moderate Haze-indeter-
BD	Blowing Dust	F	Fog	I	Intense Haze-indeterminable	N	minable
BN	Blowing Sand	GF	Ground Fog	K	Smoke	N	Sand
D	Dust	H	Haze	KI	Intense Smoke	S	Slight Haze-indeter-
DI	Intense Dust	HI	Intense Haze	KM	Moderate Smoke		minable

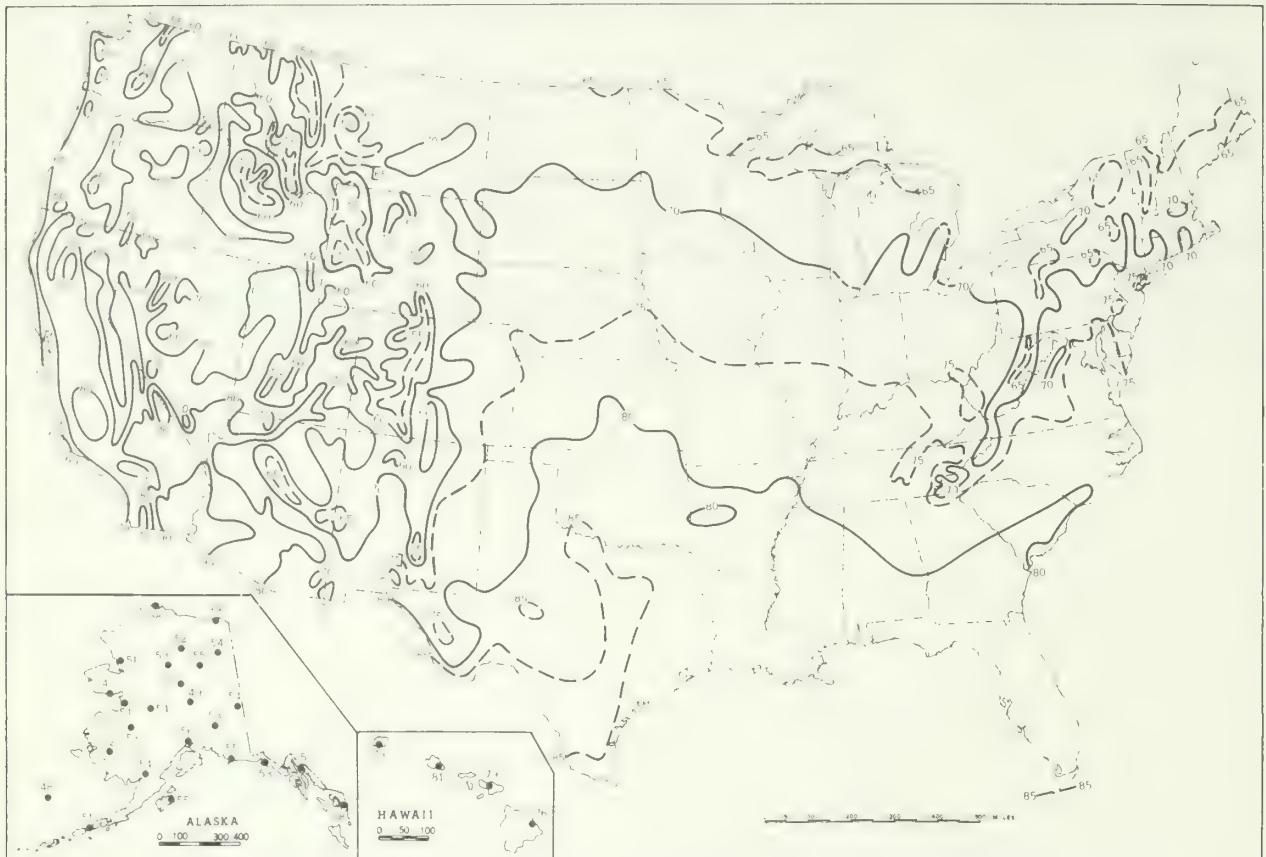
NET RADIATION: The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the NOAA, National Weather Service.

SOLAR ULTRA-VIOLET RADIATION DATA: These data are from an U-V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. This instrument has not been checked by the NOAA, National Weather Service.

TOTAL OZONE DATA: The spectrophotometer measures the total amount of ozone in the atmosphere, i.e., the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded $\rho \rho \rho$) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e.g., 350 milli-atmos cm ozone implies an ozone layer 0.350 centimeter thick. The code λs designates the type of measurement made.

Chart 1. A. Normal Daily Average Temperature (°F. 1941-70), August.



B. Temperature Departure from 30 - Year Mean (°F 1941-70), August 1974

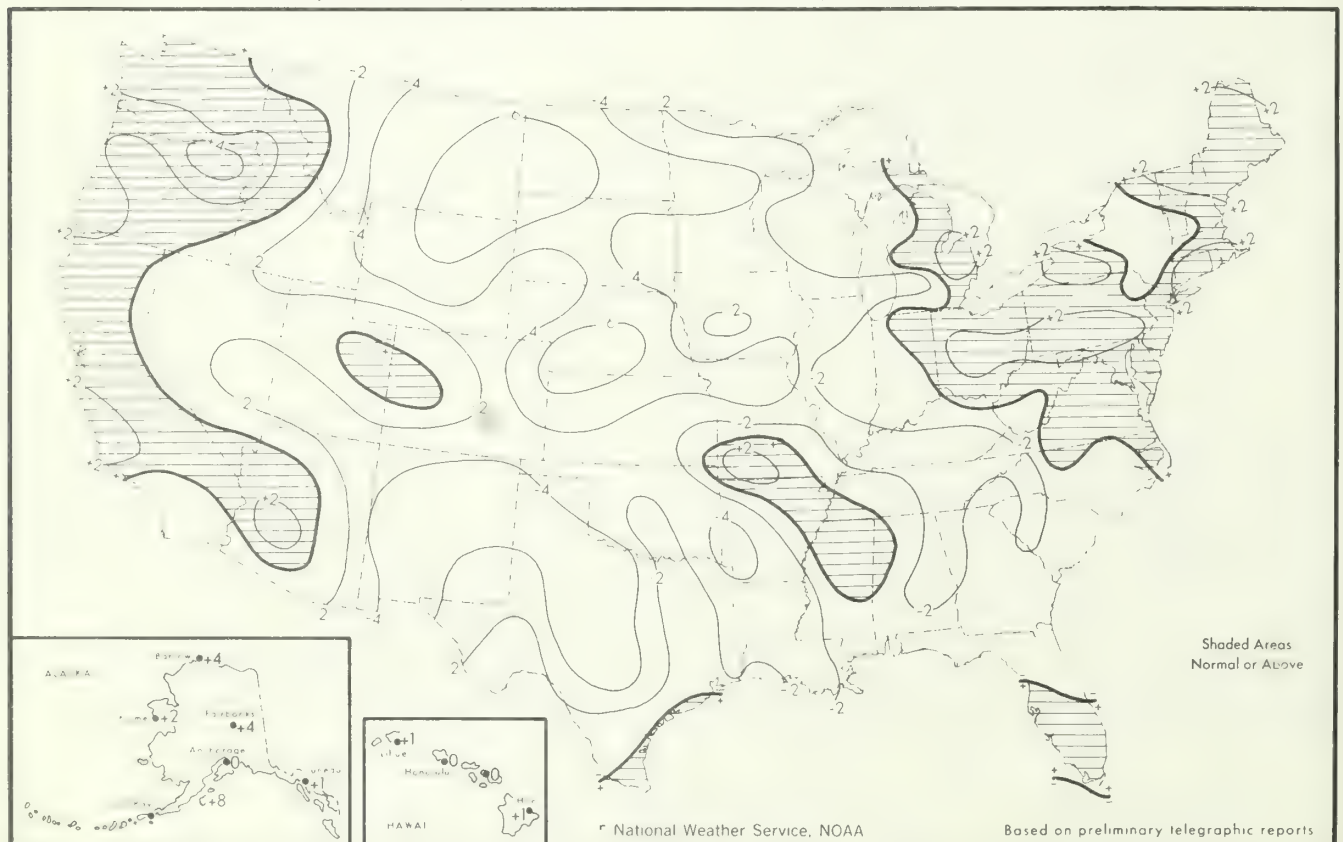
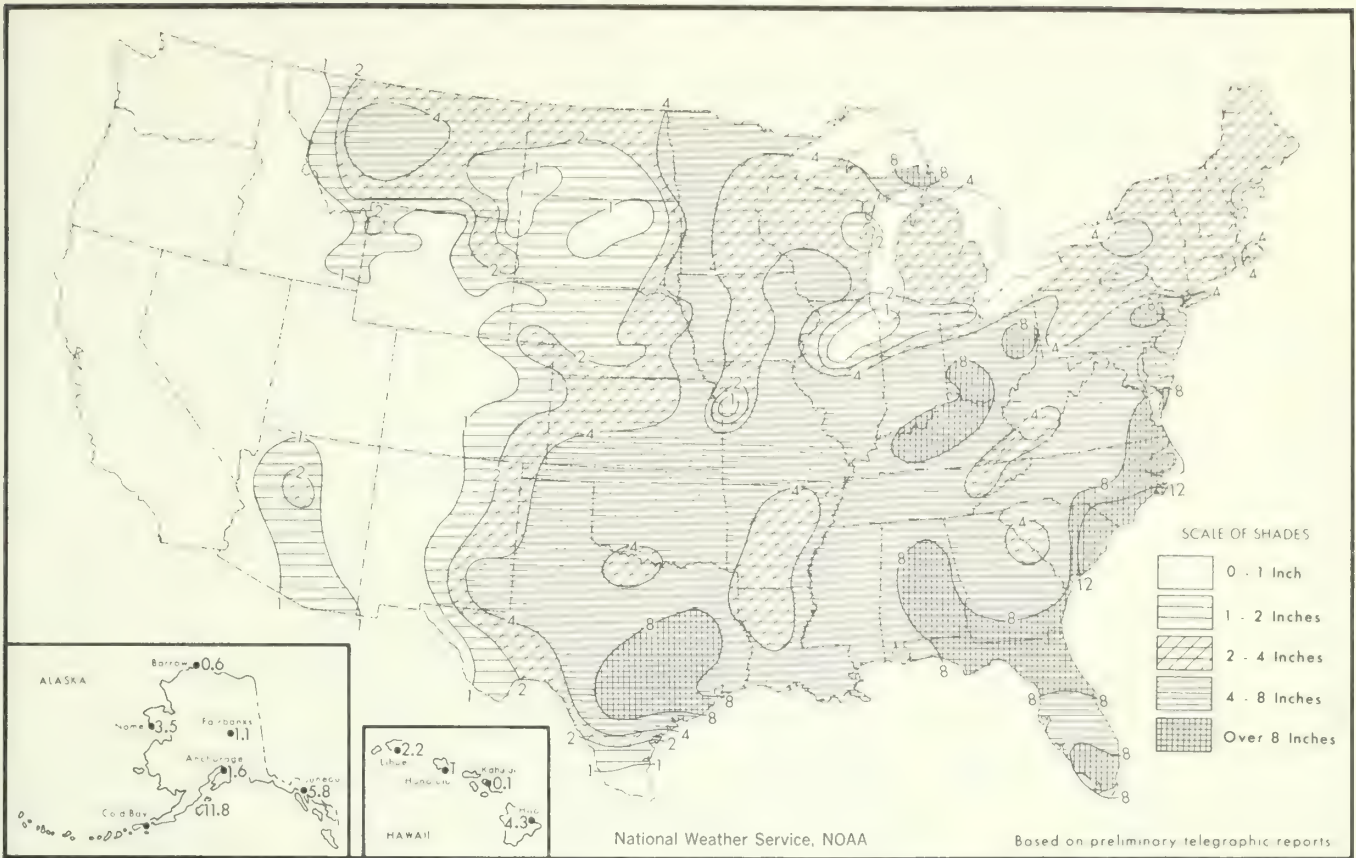


Chart II. A. Total Precipitation (Inches), August 1974



B. Percentage of Normal Precipitation, August 1974

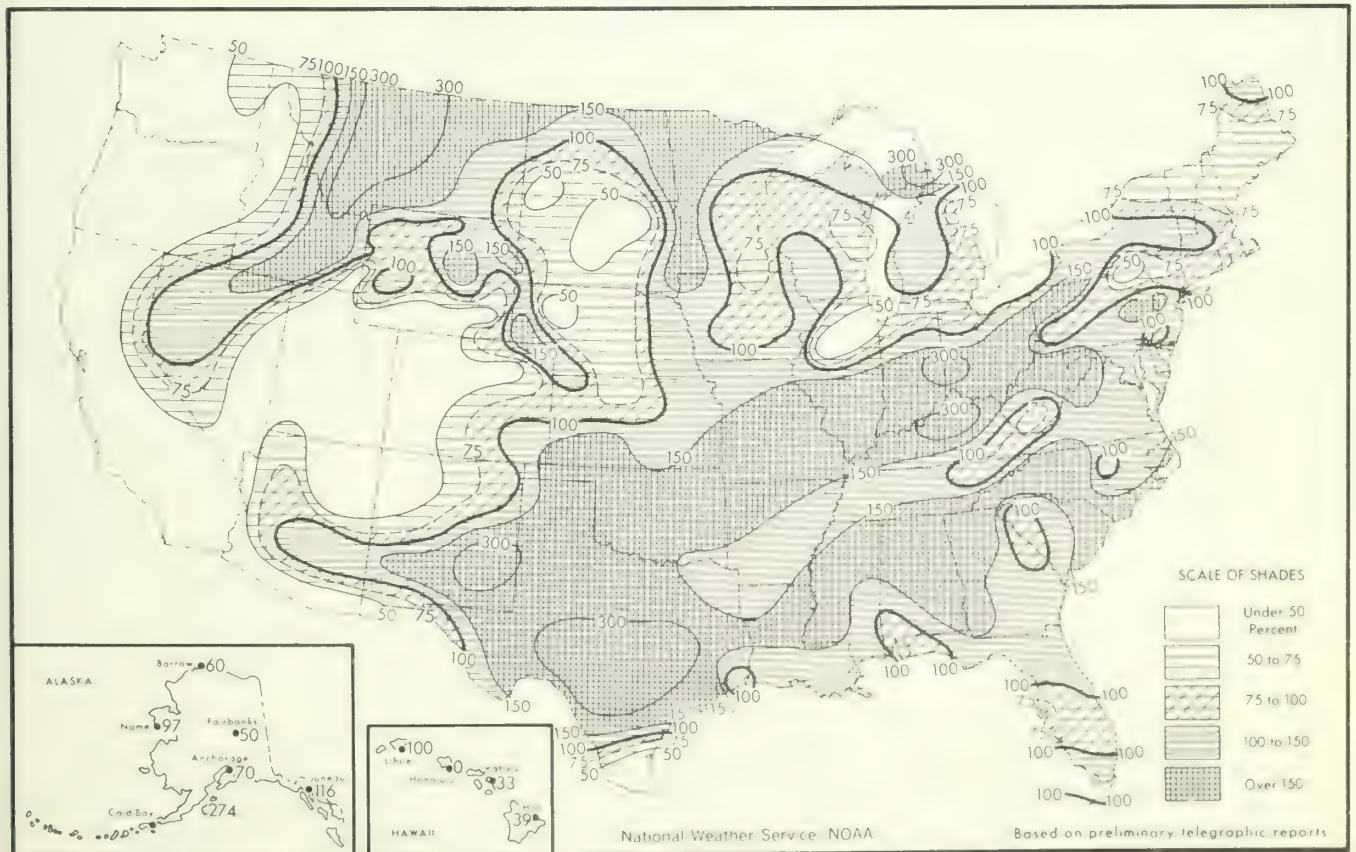
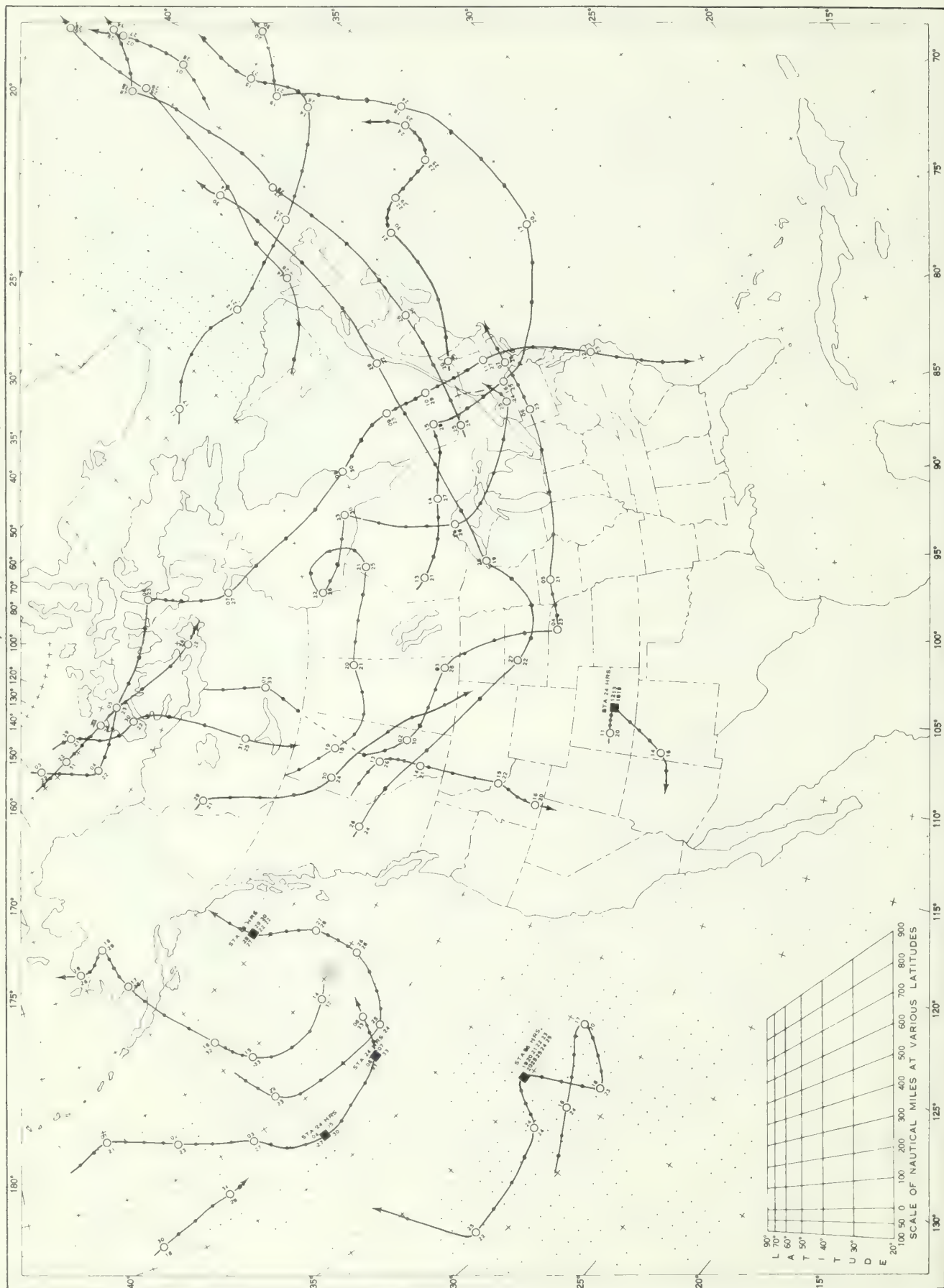
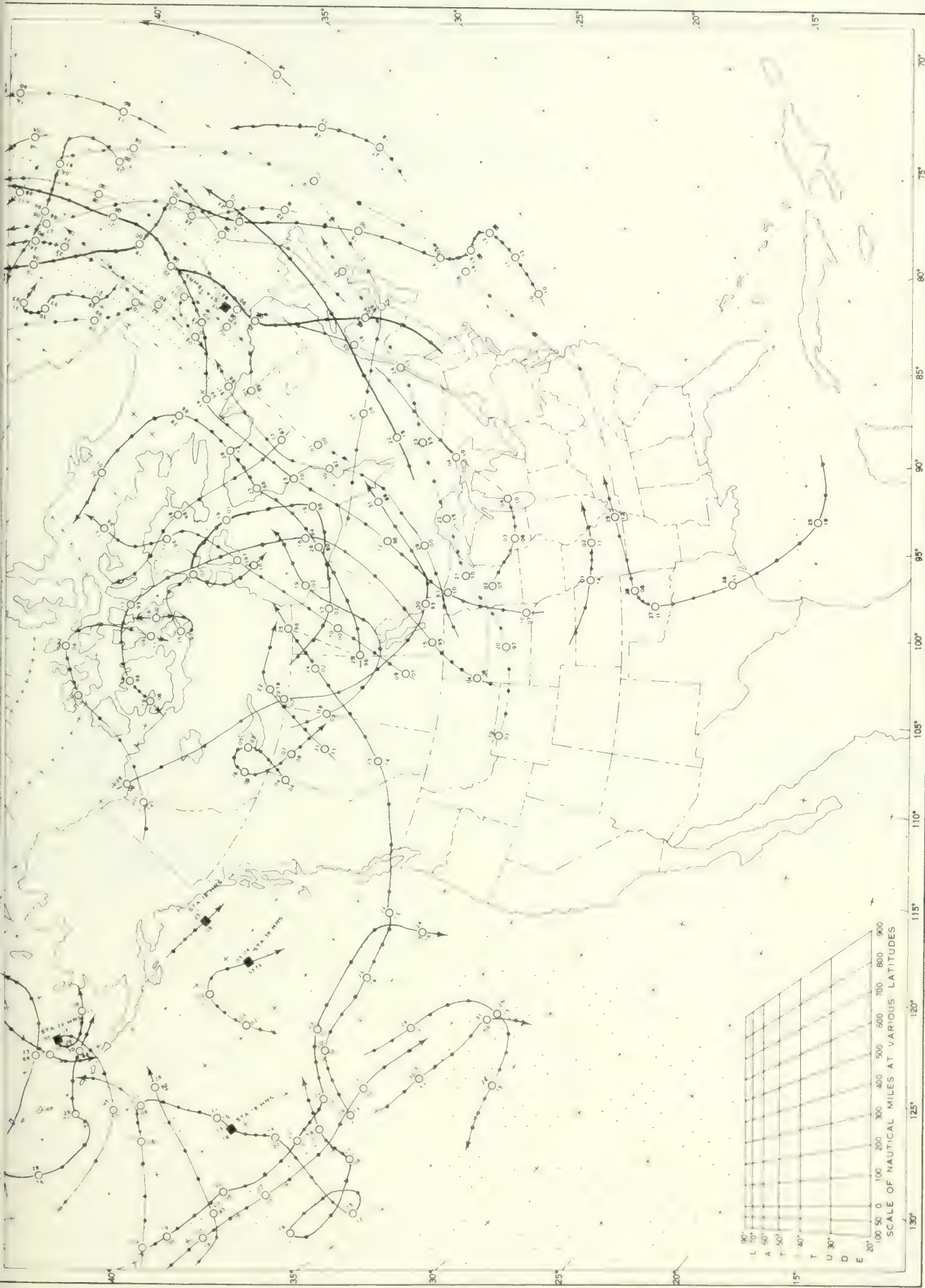


Chart III. Tracks of Centers of Anticyclones at Sea Level, August 1974



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar.
 Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar.
 Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track
 indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Environmental Data Service

NUMBER

1974

Volume 25

No. 9

, N. C.

CLIMATOLOGICAL DATA NATIONAL SUMMARY

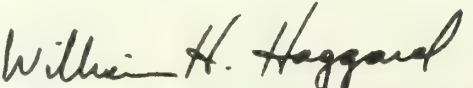
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NOTE: Late reports and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

SUBSCRIPTION PRICE: \$8.85 a year including annual summary; \$7.75 additional for foreign mailing; 60¢ single copy; \$1.65 annual summary. Make checks payable to Department of Commerce, NOAA; send payments and orders to: National Climatic Center, Federal Building, Asheville, N. C. 28801. Attn: Publications.

I certify that this is an official publication of the National Oceanic and Atmospheric Administration and is compiled from records on file at the National Climatic Center, Asheville, North Carolina 28801


 Director, National Climatic Center

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

SEPTEMBER 1974

GENERAL SUMMARY OF WEATHER CONDITIONS

Dr. Richard E. Felch, Climatologist

HIGHLIGHTS: September was an exceptionally cool month across most of the country with record early frosts in many areas. The Corn Belt averaged from 2 to 6° below normal while the Southern Great Plains and Desert Southwest averaged 6 to 10° below normal. Frost occurred in portions of the Corn Belt as early as the 3d, and again on the 21st and 22d.

Precipitation was well below normal in the western half of the United States except across Texas and New Mexico where rainfall was 2 to 4 times normal.

PRECIPITATION: Precipitation was generally light during most of the month except in the Southeast. Hurricane Carmen moved into the Louisiana coast during the morning of the 8th. Although the precipitation amounts were light, 2 to 5 inches of rain fell over much of Louisiana and parts of Mississippi, Alabama, and Georgia from rains associated with the hurricane.

During the second week, the remnants of Hurricane Carmen finally diminished over Oklahoma, but not before dropping 2 to 5 inches over eastern Texas.

During the third week of September, warm moist air from the Gulf of Mexico moved steadily westward into Texas. Simultaneously, high level Pacific moisture from a low over Baja California moved eastward continuing to drop heavy moisture over Texas and New Mexico. Abilene, Texas, recorded 9.43 inches and El Paso 5 inches during the week.

The month ended with heavy precipitation again confined to the South. From 2.50 to 5 inches fell across Texas, Oklahoma, Arkansas, Mississippi, Alabama, Georgia, and Florida.

TEMPERATURE: Frost was a key feature in the September weather picture. Temperatures on the whole averaged well below normal except in the western tier of States and the Florida Peninsula.

A light frost hit parts of five Corn Belt States the morning of the 3d; northwest Iowa, southern and central Minnesota, south central North Dakota, nearly all of South Dakota, and central Nebraska.

Subfreezing temperatures on the morning of the 22d and 23d brought the growing season to an abrupt halt across the northern half of the Corn Belt. Some morning lows on the 22d included 23° at Fargo, N. Dak., 24° at Sioux Falls, S. Dak., and 26° at Spencer, Iowa. The colder air moved eastward on the 23d and early morning readings included 26° at Madison, Wis., 31° at Peoria, Ill., and Fort Wayne, Ind., and 26° at Toledo, Ohio.

The only major respite from the cooler than normal temperatures across the Northern Plains occurred late in the month. On the afternoon of the 26th, temperatures climbed into the 90's well into North Dakota where Jamestown, registered 91°, but awoke to a cool 31° on the morning of the 27th as the more typical pattern for the month returned.

HURRICANE CARMEN

AUGUST 29 - SEPTEMBER 10, 1974

John R. Hope, National Hurricane Center, NOAA
Miami, Florida

The central core of Carmen, the most severe hurricane since Camille of 1969, was evidently successfully avoided by ships in its path, although a number did experience its peripheral winds in the northwestern Caribbean and the Gulf of Mexico. Equally fortunate were densely populated areas near Carmen's two landfalls. First, the hurricane's center veered away from Belize City, Belize, and Chetumal, Mexico, crossing the coast in a sparsely populated area. After the weakened Carmen crossed the Yucatan Peninsula she regained strength as she moved northward across the Gulf of Mexico. However, the hurricane turned toward the northwest as it reached the Louisiana coast south of New Orleans, sparing that city from considerable damage.

The forerunner of Carmen was an easterly wave, which moved off the African coast on the 23d, and became a depression centered about 180 miles east of Guadeloupe on the 29th. Intensifying gradually as it moved across the Leeward Islands into the eastern Caribbean, the depression deposited up to 5 inches of rain in the Virgin and Leeward Islands, and over 5 inches on some sections of Puerto Rico.

Carmen acquired tropical storm strength south of the Mona Passage on August 30, as it moved westward about 80 miles south of Puerto Rico and Hispaniola, and it became a hurricane the following morning just south of Jamaica. The center passed a short distance north of Isle de Cisne (Swan Island) on September 1, where gales blew for 4 hours; highest sustained winds reached 50 kt with gusts to 65 kt. As the hurricane center approached the Yucatan Peninsula on

the 2d, with sustained winds of 130 kt and a minimum pressure of 928 mb, its course shifted toward the northwest, sparing Belize City and Corojal, Belize. Passing just north of Chetumal, Mexico, Carmen raked that city with 118-kt winds; minimum pressure there dropped to 956 mb. Although close to the eye of the hurricane, Chetumal was on its weaker side.

After moving inland over the Yucatan Peninsula, Carmen weakened and it was not until the 5th that she regained hurricane strength on a northward path across the Gulf of Mexico. Reconnaissance reports indicated that maximum sustained winds of 130 kt blew around a central pressure of 937 mb over the northern Gulf of Mexico. However, some weakening occurred just before landfall as cool air entered the system. Rapid weakening followed landfall on the Louisiana coast. The highest sustained wind measured over Louisiana was 75 kt. Rainfall amounts over land were generally 6 inches or less. Reported storm tides ranged up to 6 feet along the Louisiana coast.

Damage caused by hurricane Carmen in Puerto Rico was estimated in excess of \$2 million, mainly in flash floods and in a tornado associated with the storm. In Louisiana damage was estimated at \$90 million, primarily to the sugar cane crop, but some damage sustained by offshore oil installations. Damage in Belize is believed to have been minor. There were no estimates of damage available from the Yucatan Peninsula of Mexico. The only fatality that was attributable directly to Carmen was an electrocution by fallen wires in Louisiana.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

ESTIMATED 1961

STATE	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest °F	Date	Station	Lowest °F	Date	Station	Greatest In.	Station	Least In.
Alabama	2 Stations	98	21	Waterloo	34	23	Atmore	15.56	Fort Payne	1.15
Alaska	Copper Center	84	3	Tok	29		Mac Ladd Harbor	27.60	Glennallen KCAM	.00
Arizona	Willow Beach	111	18	Fort Valley	18	28	Palisade Ranger Station	7.57		.00
Arkansas	5 Stations	90	21	2 Stations	34	29	Camden 1	14.38	Augusta	1.22
California	Death Valley	116	9	Beale	15	15	Big Bear Lake	.97	459 Stations	.00
Colorado	4 Stations	101	10	Hot Sulphur Springs 2 SW	12	30	Alamosa	3.20	2 Stations	.00
Connecticut	Hartford WSO AP	91	13	Wigwan Reservoir	23	24	Stamford 5 N	12.08	Lake Konomoc	4.49
Delaware	Wilmington 2 WSW	91	13	2 Stations	34	24	Middletown 1 WSW	7.20	Laurel 1 S	2.33
Florida	Naples 2 NE	98	15	Steinhatchee 6 ENE	30		Apalachicola WSO CI	18.32	Marathon Shores	1.78
Georgia	Savannah	98	1	2 Stations	34	30	Sapelo Island	14.29	Canton	.67
Hawaii	2 Stations	93	30	Mauna Loa Slope Obs., Hawaii	32	9	Mount Waialeale 1047, Kauai	24.05	Lahaina, Maui	.03
Idaho	2 Stations	98	1	Dixie	16	27	Pocatello	1.12	53 Stations	.00
Illinois	Joliet	90	11	2 Stations	24	23	Hutsonville Power Plant	9.49	Rockton 1 WSW	.35
Indiana	Gary	90	12	4 Stations	28	23	Greensburg 3 SW	9.98	Kokomo 7 SE	1.84
Iowa	Red Oak	91	18	2 Stations	22	22	Bloomfield	3.45	Mount Pleasant	.61
Kansas	Saint Francis	102	10	Saint Francis	28	30	Fall River Dam	7.55	4 Stations	.00
Kentucky	Hopkinsville	90	13	Ashland	27	24	Cambridge	13.06	Elkhorn City	1.79
Louisiana	2 Stations	95	11	3 Stations	42	30	Homer Exp. Station	13.95	Hackberry 8 SSW	1.66
Maine	Saco	89	13	2 Stations	21	25	Bar Harbor 3 NW	8.71	Bingham Wyman Dam	3.11
Maryland	La Plata 1 W	93	1	2 Stations	27	24	Unionville	8.02	Pocomoke City	1.40
Massachusetts	Chester 2	92	13	Chester 2	18	34	Ware	14.13	Nantucket FAA AP	3.44
Michigan	Traverse City FAA AP	90	11	Stambaugh 1 S	18	23	Rock	5.42	Muskegon WSO AP	.76
Minnesota	Browns Valley	95	27	Thorhult 1 S	10	22	Grand Portage 5 NE	3.56	Maple Island 2 NW	.76
Mississippi	Columbia	94	20	5 Stations	40	30	State Line	11.21	Pleasant Hill	1.66
Missouri	Amata	93	18	Maryville 2 E	28	30	Mansfield	9.12	Mercer 6 NW	.1
Montana	Loma 1 WSW	94	25	Redstone	9	30	Red Lodge	3.28	Cheney 1 N	.00
Nebraska	3 Stations	102	11	Nenzel 20 S	19	30	Walthill	3.34	Benkelman	.7
Nevada	Sunrise Manor Las Vegas	110	9	Rand Ranch, Palisade	11	28	Elgin 3 SE	1.87	69 Stations	.00
New Hampshire	Concord WSO AP	88	13	Mount Washington	14	24	Mount Washington	9.03	York Pond	3.59
New Jersey	7 Stations	90	14	Long Valley	26	24	Midland Park	10.13	Atlantic City	2.56
New Mexico	Columbus	102	12	Eagle Nest	16	30	Hiving H	13.13	Shiprock	.00
New York	New York Laurel Hill	91	13	Old Forge	19	24	Westchester County AP	11.07	Brockport 2 NW	1.91
North Carolina	Greenville	94	1	2 Stations	32	30	Blowing Rock	10.81	Hatteras	1.30
North Dakota	Hankinson R R Station	96	27	Wishek	9	30	Emblem 1 S	.99	Wahpeton 8, Park 8 S	.00
Ohio	Toledo Blade	88	20	4 Stations	25	24	Caldwell 6 NW	8.35	Bowling Green Sewage Plant	1.18
Oklahoma	Hollis	100	1	Zoe 1 E	34	29	Bear Mountain Tower	16.47	Regnier	.38
Oregon	Illaha	103	23	2 Stations	15	27	Alsea Fish Hatchery	2.12	110 Stations	.00
Pennsylvania	4 Stations	90	13	Clermont 4 NW	19	24	Zionsville 3 SE	9.30	Burnt Cabins 2 NE	1.61
Puerto Rico	Utua 1 WSW	96	27	2 Stations	57	30	Pico Del Este	22.85	Caguas 1 W	1.18
Rhode Island	Providence WSO AP	86	13	2 Stations	34	25	North Scituate 4 W	9.18	Block Island WSO AP	2.73
South Carolina	Ridgeland 5 NE	95	1	Longcreek 1 N	30	25	Fort Mill 4 NW	10.60	Waterree Dam	1.92
South Dakota	2 Stations	101	26	Highmore 23 NNW	11	30	Yankton 3 S	1.43	3 Stations	.00
Tennessee	Waverly 4 S	94	12	3 Stations	34	30	Lebanon 7 N-Hunters Point	11.96	Chattanooga WSO AP	1.30
Texas	Laredo 2	108	1	Menard	36	29	Juno	19.78	Morse	.32
Utah	Hanksville	103	9	Scofield	14	28	Alton	1.65	37 Stations	.00
Vermont	Vernon	88	14	Mount Mansfield	20	24	Searsburg Station	7.79	2 Stations	3.18
Virginia	Washington Dulles WSO AP	94	13	Monterey	22	24	Halifax 2 SSE	10.04	Wallops Island WSO	1.57
Virgin Islands	Beth Upper New Works	90	9	2 Stations	68	18	Frederiksted	11.96	Tague Bay	3.85
Washington	2 Stations	100	24	St. John	22	29	Clearwater	2.75	15 Stations	.00
West Virginia	Martinsburg FAA AP	93	12	Seneca State Forest	21	24	Mc Mechen Dam 13	7.35	Renick 2	1.69
Wisconsin	Burlington	89	9	Coddington 1 E	14	22	Summit Lake Ranger Station	5.44	Beloit	.06
Wyoming	Yoder	96	10	2 Stations	8	28	Parkman 5 WSW	2.24	9 Stations	.00

CLIMATOLOGICAL DATA

METRIC UNITS

SEPTEMBER 1974

State and Station	Elevation (ground)	Pressure		Temperature						Precipitation				Wind			No. of days (sunrise to sunset)		Possible sunshine (sunrise to sunset)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
		Station	Sea level	Average		Departure from normal		Highest		Lowest		Date		No. of days		Average dew point	Average relative humidity	Total		mm	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	mm	Maximum depth on ground	Ice pellets	Snow	No. of days	Resultant speed	Direction	Fastest mile (1.6 kilometers)	Clear, 0-3	Partly cloudy, 4-7	Sky cover, tenths																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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CLIMATOLOGICAL DATA

METRIC UNITS

1971-1980

State and Station	Elevation (ground)	Pressure		Temperature							Precipitation						Wind			No. of days (sunrise to sunset)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
		Station	Sea level	Average maximum			Average minimum			Average				Departure from normal		Highest		Lowest			Date		No. of days		Average dew point		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm

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CLIMATOLOGICAL DATA
METRIC UNITS[illegible]

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature						Precipitation				Wind				No. of days (sunrise to sunset)		Sky cover, tenths (sunrise to sunset)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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CLIMATOLOGICAL DATA

METRIC UNITS

STATION 6, 1-4

State and Station	Elevation (ground)	Pressure		Temperature										Precipitation						Wind				No. of days (sunrise to sunset)			Possible sunshine							
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2° or above	Min. 0° or lower	Average dew point	Total	mm	Departure from normal	Greatest in 24 hours	25 mm. or more	With thunderstorms	Total	mm	Maximum depth on ground					Snow, ice pellets	Resultant speed	Resultant direction	Speed	Direction	Date	
WASHINGTON	289		mb	27.6	11.7	19.7	0.9	32.2	25+	6.7	30+	4	0	5.6	73	1	- 21	7	1	1	0	0	0	0	2.1	29	13.0	NW	26	21	7	2	2.3	89
WALLA WALLA	321	979.3	1017.5	27.8	6.6	17.2	0.9	31.1	24+	0.6	27	0	0	5.6	53	1	- 7	1	1	1	0	0	0	0	2.1	29	13.0	33	26	18	10	2	2.8	89
YAKIMA																																		
WEST INDIES	4	1011.9	1014.1	31.3	25.2	28.3	1.0	34.4	26+	22.8	19	6	0	21.7	69	93	- 61	25	18	7	0	0	0	0	2.2	12	16.1	F	14	2	15	13	6.8	46
SAN JUAN P.R.																																		
WEST VIRGINIA	763	931.3	1019.1	20.3	10.0	15.2	- 1.9	26.7	13+	0.0	24	0	1	11.7	84	73	- 13	33	15	4	0	0	0	0	0.9	20	12.5	26	13	2	11	17	7.4	
BECKLEY	286	984.8	1018.8	22.8	11.9	17.3	- 2.4	29.4	13+	1.1	24	0	0	13.9	83	67	- 8	15	10	4	0	0	0	0	0.5	23	10.3	23	13	4	10	16	7.3	
CHARLES-ON	594	948.5	1018.5	21.0	9.4	15.2	- 1.2	27.2	12	- 1.7	24	0	2	13.9	86	86	5	25	14	0	0	0	0	0	0	0	0	0	2	8	20	7.7		
FLIKINS	252	988.5	1018.4	22.5	12.3	17.4	- 2.4	28.9	12	1.7	24	0	0	13.9	81	92	20	35	10	2	0	0	0	0	0.4	22	9.4	34	30	3	9	18	7.5	
HUNTINGTON	187			22.6	12.3	17.4	- 2.2	29.4	12	2.2	24	0	0	13.9	81	81	10	21	11	0	0	0	0	0	0	0	0	0	3	9	18	7.5	43	
PARKERSBURG																																		
WISCONSIN	208	990.9	1015.6	19.2	5.5	12.3	- 2.6	28.9	11+	- 2.8	23+	0	3	6.7	70	27	- 56	12	9	2	0	0	0	0	1.7	26	13.4	W	20	8	14	6.4	15	
GREEN BAY	198	993.6	1018.2	20.1	7.5	13.8	- 2.7	27.8	9+	- 0.6	23	0	2	8.7	73	36	- 50	8	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
LA CROSSE	262	986.1	1017.5	21.7	6.6	14.1	- 1.3	30.6	26	- 3.9	22	0	2	7.8	68	27	- 58	10	5	0	0	0	0	0	1.7	26	11.2	SW	24	12	7	11	5.0	63
MADISON	205	992.2	1017.5	19.8	9.1	14.4	- 1.7	29.4	11	- 2.2	23	0	2	8.3	68	13	- 64	7	6	2	0	0	0	0	1.9	25	13.4	N	28	14	5	11	5.0	60
MILWAUKEE																																		
WYOMING																																		
CASPER	1627	841.2	1018.4	21.1	3.7	12.4	- 2.4	31.1	9	- 1.1	30+	0	5	- 1.1	47	21	- 1	12	5	1	130	76	1.3	28	14.3	25	10	17	7	6	13.7	70		
CHEYENNE	1867	815.1	1017.1	20.1	5.7	12.9	- 1.6	30.6	10	- 1.7	28	0	1	- 1.7	42	13	- 13	16	5	1	48	25	2.1	31	22.4	W	5	17	7	6	13.7	70		
LANDER	1696	833.1	1018.0	21.9	4.8	13.4	- 1.3	30.6	9+	- 1.7	28	0	5	- 2.2	41	27	- 1	14	4	0	168	25	0.8	24	12.5	SW	10	18	6	6	13.7	70		
SHERIDAN	1208	882.5	1019.4	21.6	3.6	12.6	- 1.8	31.1	26	- 2.8	30+	0	4	1.7	54	38	5	16	5	1	8	1	1.2	32	17.0	NW	10	14	10	6	13.7	70		

(Base 65°F.)

12

COOLING DEGREE DAYS

(Base 65°F.)

SEPTEMBER 1974

State and station	Current season			State and station	Current season			State and station	Current season						
	This month	Period January through this month	Normal January through this month		This month	Period January through this month	Normal January through this month		This month	Period January through this month	Normal January through this month				
ALABAMA				HAWAII				NEBRASKA				SOUTH CAROLINA			
BIRMINGHAM	180	1597		HILO	375	2734		GRAND ISLAND	56	1028		CHARLESTON	312	1977	
HUNTSVILLE	138	1353		HONOLULU	458	3517		LINCOLN	46	1118		CHARLESTON U	297	2093	
MOBILE	323	2386		KAHULUI	390	3003		NORFOLK	50	907		COLUMBIA	249	2114	
MONTGOMERY	239	1886		LIHUE	452	3341		NORTH PLATTE	40	695		GRNVILLE-SPRTNBRG	193	1406	
ALASKA				IDAHO				OMAHA	39	1017		SOUTH DAKOTA			
ANCHORAGE	0	1		BOISE	71	851		SCOTTSDBLUFF	15	729		ABERDEEN	20	670	
ANNETTE	0	12		LEWISTON	98	905		VALENTINE	25	803		HURON	29	770	
BARROW	0	0		POCATELLO	12	460		NEVADA				RAPID CITY	28	697	
BARTER ISLAND	0	0		ILLINOIS				FLKO	6	360		SIOUX FALLS	26	745	
BETHEL	0	3		CAIRO U	98	1434		FLY	14	209		TENNESSEE			
BETTTLES	0	61		CHICAGO O HARF	48	598		LAS VEGAS	559	3208		BRISTOL	73	797	
BIG DELTA	0	12		CHICAGO MIDWAY	60	760		RENO	20	258		CHATTANOOGA	132	1048	
COLD BAY	0	0		MOLINE	45	794		WINNEMUCCA	29	580		KNOXVILLE	171	1304	
FAIRBANKS	0	74		PEORIA	47	811		NEW HAMPSHIRE				MEMPHIS	138	1771	
GULKANA	0	2		ROCKFORD	35	673		CONCORD	40	302		NASHVILLE	130	1388	
HOMER	0	0		SPRINGFIELD	49	965		MT WASHINGTON OBS	0	0		OAK RIDGE R	86	951	
JUNEAU	0	0		INDIANA				NEW JERSEY				TEXAS			
KING SALMON	0	0		EVANSVILLE	73	1200		ATLANTIC CITY	103	898		ABILENE	104	2197	
KODIAK	0	3		FORT WAYNE	39	725		ATLANTIC CITY U	91	823		AMARILLO	61	1376	
KOTZFAUE	0	0		INDIANAPOLIS	40	845		NEWARK	115	1121		AUSTIN	229	2554	
MC GRATH	0	11		SOUTH BEND	60	744		TRENTON U	112	969		BROWNSVILLE	458	3407	
NOME	0	1		IOWA				NEW MEXICO				CORPUS CHRISTI	410	3249	
ST. PAUL ISLAND	0	0		BURLINGTON	40	746		ALBUQUERQUE	107	1347		DALLAS FT WORTH	202	2403	
SUMMIT	0	0		DES MOINES	52	970		CLAYTON	31	765		DEL RIO	278	2997	
TALKFETNA	0	0		DUBUQUE	18	495		ROSWELL	95	875		FL PASO	181	1999	
UNALAKLEET	0	0		SIOUX CITY	41	976		NEW YORK				GALVESTON U	335	2611	
YAKUTAT	0	0		WATERLOO	38	642		BINGHAMTON	35	385		HOUSTON INTERCON	295	2547	
ARIZONA				KANSAS				BUFFALO	17	372		LUBBOCK	80	1722	
FLAGSTAFF	13	232		CONCORDIA	69	1243		NEW YORK U	29	428		MIDLAND	136	2215	
PHOENIX	673	3907		DODGE CITY	77	1442		NEW YORK KENNEDY	115	1081		PORT ARTHUR	305	2444	
TUCSON	387	2602		GOODLAND	50	811		NEW YORK LA GUARDIA	104	1013		SAN ANGELO	159	2320	
WINSLOW	176	1260		TOPEKA	47	1141		ROCHESTER	40	540		SAN ANTONIO	229	2521	
YUMA	719	3906		WICHITA	69	1443		SYRACUSE	31	404		VICTORIA	344	2995	
ARKANSAS				KENTUCKY				UTAH				WACO	225	2632	
FORT SMITH	82	1532		COVINGTON	50	886		MILFORD				WICHITA FALLS	135	2298	
LITTLE ROCK	148	1737		LEXINGTON	60	853		SALT LAKE CITY							
CALIFORNIA				LOUISVILLE	75	1037		WENDOVER							
BAKERSFIELD	549	2677		LOUISIANA				VERMONT				BURLINGTON	27	441	
BISHOP	179	1175		ALEXANDRIA	239	2215		VIRGINIA				LYNCHBURG	103	918	
BLUE CANYON	167	468		BATON ROUGE	329	2456		NORFOLK	213	1473		NORFOLK	141	1212	
EUREKA U	0	0		LAKE CHARLES	310	2417		RICHMOND	141	1212		ROANOKE	83	886	
FRESNO	381	1924		NEW ORLEANS	368	2472		WALLOPS ISLAND	137	987					
LONG BEACH	220	979		SHREVEPORT	200	2052		WASHINGTON				OLYMPIA	32	118	
LOS ANGELES	125	522		MAINE				QUILLAYUTE	27	40		SEATTLE	54	184	
LOS ANGELES U	254	1125		CARIBOU	5	116		SEATTLE-TACOMA	60	196		SPOKANE	7	405	
MT SHASTA R	62	326		PORTLAND	28	296		STANDEDE PASS R	114	964		WALLA WALLA U	114	964	
OAKLAND	29	73		MARYLAND				YAKIMA	24	546					
RED BLUFF	396	1873		BALTIMORE	130	1019		WEST INDIES				SAN JUAN P.R.	544	4398	
SACRAMENTO	222	1049		MASSACHUSETTS				WEST VIRGINIA							
SANDBERG R	231	984		BLUE HILL OBS R	50	524		BECKLEY	22	345		CHARLESTON	62	903	
SAN DIEGO	164	617		BOSTON	48	642		CHARLOTTE	158	1312		ELKINS	27	244	
SAN FRANCISCO	91	97		WORCESTER	36	430		GREENSBORO	144	1156		HUNTINGTON	69	976	
SAN FRANCISCO U	19	36		MICHIGAN			RALEIGH	169	1295		PARKERSBURG U	70	871		
SANTA MARIA	4	35		ALPENA	8	221		WILMINGTON	294	1893					
STOCKTON	323	1527		DETROIT	69	849		NORTH DAKOTA							
COLORADO				DETROIT METRO	36	619		BISMARCK	0	409					
ALAMOSA	0	44		FLINT	15	491		FARGO	3	443					
COLORADO SPRINGS	26	524		GRAND RAPIDS	24	397		WILLISTON	0	440					
DENVER	39	715		HOUGHTON LAKE	11	241		OHIO							
GRAND JUNCTION	109	1273		LANSING	37	482		AKRON	29	583					
PUEBLO	60	1094		MARQUETTE U	3	280		CINCINNATI ABBE OB	63	1011					
CONNECTICUT				MUSKEGON	27	378		CLEVELAND	30	564					
BRIDGEPORT	95	929		SAULT STE MARIE	0	126		COLUMBUS	52	833					
HARTFORD	77	761		MINNESOTA				DAYTON	36	829					
DELAWARE				DULUTH	0	149		MANFIELD	27	637					
WILMINGTON	113	1101		INTERNATIONAL FALLS	0	259		TOLEDO	34	603					
DIST OF COLUMBIA				MINNEAPOLIS	6	618		YOUNGSTOWN	21	436					
WASHINGTON DULLES	127	848		ROCHESTER	7	487		OKLAHOMA							
WASHINGTON NATIONAL	192	1393		ST CLOUD	1	394		OKLAHOMA CITY	80	1604					
FLORIDA				MISSISSIPPI				TULSA	71	1728					
APALACHICOLA U	449	2557		JACKSON	223	1926		OREGON							
DAYTONA BEACH	469	2660		MERIDIAN	269	2166		ASTORIA	13	29					
FORT MYERS	548	3395		MISSOURI				BURNS U	18	406					
JACKSONVILLE	399	2311		COLUMBIA REGIONAL	30	940		EUGENE	110	440					
KEY WEST	587	4096		KANSAS CITY	47	1151		MEACHAM	18	194					
LAKELAND U	501	3001		ST JOSEPH	23	1074		MEDFORD	155	768					
MIAMI	578	3835		ST LOUIS	52	1148		PENDLETON	122	954					
ORLANDO	510	2801		SPRINGFIELD	43	1080		PORTLAND	102	409					
PENSACOLA	408	2646		MONTANA				SALEM	78	298					
TALLAHASSEE	420	2372		BILLINGS	7	570		SEXTON SUMMIT R	141	332					
TAMPA	640	3133		GLASGOW	3	451		PACIFIC ARFA							
WEST PALM BEACH	528	3433		GREAT FALLS	11	466		GUAM TAGUAC R	427	3784					
GEORGIA				HAVRE	8	465		JOHNSTON	492	3921					
ATHENS	199	1464		HELFINA	0	323		KOROR R	526	4640					
ATLANTA	187	1454		KALISPELL	0	215		KWAJALEIN	509	4616					
AUGUSTA	265	1645		MILES CITY	14	711		MAJURO	484	4337					
COLUMBUS	276	1970		MISSOULA	1	303		PAGO PAGO	472	3990					
MACON	264	2052						PONAPE R	463	4280					
ROME	169	1147						TRUK MOEN ISLAND	502	4559					
SAVANNAH	347	2175						WAKE	470	3765					
								YAP R	474	4343					
								PENNSYLVANIA							
								ALLENTOWN	52	696					
								ERIE	23	326					
								HARRISBURG	88	1159					
								PHILADELPHIA	145	1148					
								PITTSBURGH	45	648					
								SCRANTON	46	447					
								WILLIAMSPORT	43	564					
								RHODE ISLAND							
								BLOCK ISLAND	44	480					
								PROVIDENCE	66	665					

STORM SUMMARY

SEPTEMBER 1974

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				@HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				o ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	DAMAGE	DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE					
								PROP.	LOSS			PROP.	LOSS			PROP.	LOSS			PROP.	LOSS								
Alabama	2	2																											
Alaska	4																												
Arizona								4	4			3	5	4	1														
Arkansas													5	C															
California	1	1			4												1												
Colorado																													
Connecticut																1													
Delaware													2				4												
Florida	1	1			4								5		2	4	4												
Georgia																													
Hawaii																													
Idaho												1	4																
Illinois	2	1			4								2		1		3							5		8			
Indiana															1														
Iowa																													
Kansas								2	2								4												
Kentucky													5	4															
Louisiana	2	1		1	4				1	2			7	8		2	4					4							
Maine																													
Maryland & D.C.																													
Massachusetts	1	1		1	5								5	2			4												
Michigan	5	3			4								4	C										4					
Minnesota																	4									8			
Mississippi	3	3			4								4		2		2							4					
Missouri															2		2												
Montana																													
Nebraska													4	4															
Nevada																													
New Hampshire													5											6					
New Jersey												1	2											2					
New Mexico													4																
New York	1	1			5								4	5	C	1	5	C					1	2					
North Carolina	1	1		2	5											1	2												
North Dakota																													
Ohio												1	3				5									7			
Oklahoma								4	2															4					
Oregon																													
Pacific																													
Pennsylvania													4				4						1		4				
Puerto Rico																													
Rhode Island																													
South Carolina													4																
South Dakota																													
Tennessee																													
Texas	6	4		2	6												3							5	6	7			
Utah																													
Vermont																													
Virginia																													
Virgin Islands																													
Washington																													
West Virginia																													
Wisconsin													3													8			
Wyoming													5	C			5												

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

SEPTEMBER 1974

Herbert J. Thompson and Raymond J. Haley
Office of Hydrology

During September there was major flooding along several streams in southern Texas and in the Rio Grande Basin. At least 4 lives were lost and damage was extensive. A major flash flood event occurred in Nevada with 9 lives lost at Nelson Landing.

Significant flooding occurred in the Escambia and Tombigbee River Basins in Alabama, the Marais des Cygnes River Basin in Kansas, and on several tributaries of the Red River in Oklahoma, Arkansas, and Texas. Minor flooding occurred in New Jersey, Virginia, the Carolinas, Kentucky, Illinois, and eastern

Texas and the Kenai Peninsula in Alaska.

Significant flash flooding occurred in several areas including Greensboro, N. C., Atmore, Alabama, Abilene, Texas, and southwest Arkansas.

Hydrologic events of unusual significance or involving loss of life or property damage are discussed in more detail below.

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
ATLANTIC SLOPE DRAINAGE			
Passaic River Basin	The Saddle River crested near bankfull at Lodi, N. J., on the 2d as a result of rains up to 3 inches and went slightly over flood stage on the 4th from rains of more than 4 inches the previous night. Other streams in northern New Jersey remained within banks.	0	N.A.
James River Basin	During the 6th-7th rainfall over the main stem of the James ranged from 1 inch over the headwaters to 4 inches over the lower portion with minor to moderate flooding at some points on the lower James. Rainfall over the Appomattox River, a tributary of the James, ranged up to the 4.7 inches reported at Pamplin City, Va., in the headwaters. Moderate flooding occurred along the upper reaches of the Appamattox with minor flooding downstream. One flood-related death occurred in a boating accident on the James River at Richmond, Va.	1	N.A.
Roanoke River Basin	A series of thunderstorms early in the month caused minor flooding on the Dan River and minor to moderate flooding on the Roanoke River with a crest 3.6 feet over flood stage at Randolph, Va. Releases from John H. Kerr reservoir caused minor flooding at Williamston, N. C., later in the month.	0	N.A.
Neuse and Cape Fear River Basins	The moderate to heavy thunderstorms over north-central North Carolina also caused moderate flooding along the upper Neuse and middle Cape Fear Rivers from the 8th to the 13th. Crests were 3 to 4 feet over flood stage on the Neuse and about 5 feet over flood stage on the Cape Fear Rivers. Minor flooding occurred at Smithfield on the Neuse River on the 5th and 6th from rains of nearly 3 inches on the 3d upstream at Neuse, N. C.	0	N.A.

Flash flooding occurred in Greensboro, N. C., on

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

SEPTEMBER 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
ATLANTIC SLOPE DRAINAGE-Continued			
	the night of the 2d with rainfall of more than 5 inches in about 1 hour over portions of the city. The flooding occurred along South Buffalo Creek and caused evacuation of 100 residents from the La Mancha Apartments. Damage was estimated at \$1 million.		
Pee Dee and Santee River Basins	Warm moist air overrunning a cool surface air mass produced heavy rainfall over the upper areas of these basins on the 5th-7th. Amounts averaged 2.5 to 3.5 inches with some point values approaching 4 inches. Sharp rises occurred on all streams with flood stage exceeded on the Lumber River at Lumberton, N. C., the Pee Dee River at Pee Dee, S. C., the Saluda River at Chappells, S. C., and the Lookout Shoals Reservoir on the Catawba River. Losses were generally minor except at Pee Dee where they were estimated at \$5,000. A 3-inch rainfall at Lumberton on the 17th and 18th caused a second crest there on the 19th, 1.5 feet over flood stage.	0	5
EAST GULF OF MEXICO DRAINAGE			
Escambia River Basin	Heavy rainfall associated with Hurricane "Carmen" occurred over the basin on the 7th-9th. Amounts averaged about 10 inches over the Big and Little Escambia Creek drainages with an unofficial 48-hour storm total of over 14 inches reported near Atmore, Alabama. The crest at Flomaton, Alabama, was 3.5 feet over flood stage. About 30 families were evacuated with 12 homes and several businesses flooded. Early warnings permitted evacuation of household goods and damage was estimated at \$51,000. Flash flooding occurred in the Atmore area along Brushy and Hales Creeks with 2 bridges washed out and road and utility damage to the extent of \$65,000.	0	116
Tombigbee River Basin	Rainfall associated with hurricane "Carmen" ranged from about 2 to 4 inches over the basin above Coffeeville, Alabama, and from 4 to about 10 inches over the downstream portion of the basin. The crest at Coffeeville, the farthest downstream reporting station, of 2 feet over flood stage caused some lowland flooding with agricultural damage.	0	31
MISSOURI BASIN			
Marais des Cygnes River Basin	Rains of 2 to 4 inches over east-central Kansas on the 1st-2d caused flooding of low-lying farmland along the Marais des Cygnes River below Osawatomie, Kansas, and along lower Pottawatomie Creek, a tributary. Crests up to 4 feet over flood stage occurred. Damage was primarily to corn and soybean crops with 2,000 acres inundated.	0	102

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

SEPTEMBER 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
OHIO BASIN			
Salt River Basin	Moderate to heavy rain occurred on the 2d-4th and again on the 9th-14th. The Rolling Fork of the Salt River crested 1 foot below the established flood stage at Boston, Kentucky, on the 12th. About 500 acres of bottomland were inundated with 100 acres of corn and hay destroyed.	0	5
Wabash River Basin	Intermittent showers and thunderstorms occurred during the first four days of the month and again on the 9th-14th. Moderate flooding occurred on the Little Wabash at Wilcox, Illinois, from both periods of rainfall. Heavy rain on the 12th caused moderate flooding along the lower Embarrass River with some crop damage and minor flooding along the lower White River.	0	N.A.
WHITE BASIN			
Cache River	Heavy rains at the beginning of the month caused an additional rise on the Cache River at Patterson, Ark., and a second crest. Flooding began there in August. There was crop damage in lowland areas.	0	N.A.
ARKANSAS BASIN			
Neosho River	Monthly rainfall totals were somewhat above normal over southeast Kansas with several stations in that area reporting more than 7 inches. Much of this rain fell on the 1st-2d and caused relatively minor flooding along portions of the middle and lower Neosho Rivers with crests about 1 to 2 feet over flood stage.	0	N.A.
Middle Arkansas Basin Tributaries	There were two periods of heavy rainfall over northern Oklahoma during the month. Amounts of about 1 to over 5 inches fell on the 1st-3d resulting in minor flooding along the Cimarron River and Bird Creek, a tributary of the Verdigris River. Amounts ranging up to more than 5 inches on the 19th-20th caused minor flooding again on the Cimarron River. More significant flooding occurred along Bird and Black Bear Creeks with crests 2.5 to over 5 feet above flood stage.	0	N.A.
RED RIVER BASIN			
Red River Tributaries in Oklahoma	There were several brief periods of relatively minor flooding on various tributaries of the Red River during September. Glover Creek went over flood stage on the 11th as a result of 3-day totals which averaged 5.9 inches over the basin. Glover Creek again flooded on the 25th from rain averaging 2.4 inches for 24 hours. On the 17th the Blue River went slightly over flood stage from rains of nearly 3 inches in 24 hours. Rainfall on the 25th-26th which averaged 2.5 inches over the Clear Boggy Creek and Blue River Basins caused flooding on both streams with the crest	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

SEPTEMBER 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate Property Damage (thousands of dollars)
RED RIVER BASIN-Continued			
	at Caney, Oklahoma, on clear Boggy Creek nearly 3 feet over flood stage. The other flooding was in the range of 0.5 to 1.5 feet over flood stage.		
Red River Tributaries in Texas	Northern Texas received heavy rainfall during the month with monthly totals ranging from 6 to more than 10 inches. There were four periods of rainfall-the 3d, 9th-11th, 13th-22d, and 24th-25th with the last period being the most significant, causing sharp rises to near flood stage at some points on the Pease, Wichita, and Little Wichita Rivers. Significant flooding occurred along the Sulphur River at Hagansport on the 25th-29th after two brief periods of minor flooding earlier in the month. The river rose 11 feet in 6 hours on the 25th closing State Highway 37 until the 27th and cresting 4 feet over flood stage. Downstream at Naples flooding began the 17th and continued into October. Damage along the Sulphur River was relatively light since the flood plain is essentially undeveloped.	0	N.A.
Ouachita River Basin	Heavy rain occurred over southwestern Arkansas from August 30 to September 2, with several stations reporting more than 10 inches in 36 hours and a 48-hour total of nearly 16 inches at Hope, Arkansas, of which 11 inches fell in a 10-hour period on August 31. Flash flooding was widespread with many secondary roads flooded and several bridges washed out. The Ouachita River responded dramatically to this heavy rainfall and crested 9.6 feet over flood stage at Camden, Ark. Damage was primarily to field crops along the Ouachita River.	0	N.A.
Red River Main Stem	Heavy runoff from several tributaries discussed above caused high water along the Red River with flooding at Burkburnett, Texas, just below the confluence with the Pease River. A crest about 2 feet over flood stage occurred there.	0	N.A.
ATCHAFALAYA BASIN			
Atchafalaya River	Rainfall associated with hurricane "Carmen" on the 7th-9th ranged up to the 7.2 inches reported at New Iberia, Louisiana. The Atchafalaya River rose from a stage of 3.5 feet, its low for the month, to a crest of 7.85 feet on the same day, the 8th, at Morgan City, Louisiana. Flood stage there is 7 feet.	0	N.A.
WEST GULF OF MEXICO DRAINAGE			
Eastern Texas Streams	Rainfall was heavy over north-central and north-east Texas during September. Monthly totals were generally in the range of 6 to 10 inches, but nearly 16 inches were reported at Hazeldell and Wortham. Minor flooding occurred along the Upper Sabine from Lake Tawokoni to Mineola, on the Angelina River at Lufkin, on the Neches River around Diboll, and the Trinity River at	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

SEPTEMBER 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
WEST GULF OF MEXICO DRAINAGE-Continued			
	Dallas. Moderate flooding was reported along the East Fork of the Trinity at Crandall.		
	On the lower Trinity River, releases from Lake Livingston combined with rains of 2 to 3 inches caused moderate flooding from Liberty to Moss Bluff the latter half of the month.		
Brazos River Basin	Moderate flooding occurred along the Navasota River in response to rainfall of 5-6 inches over the headwaters above Easterly, Texas, on the 12th-14th. During this period rainfall of as much as 7.8 inches was reported northeast of Bryan, Texas. Minor flooding occurred on the Little River at the town of Little River on the 17th in reaction to rains of 4 inches upstream. Rains of up to at least 5 inches downstream failed to produce flooding at Cameron.	0	N.A.
	Serious flash flooding occurred in Abilene, Texas, on the 19th as Elm Creek rose to a record crest of nearly 18 feet compared to the previous high of 12.6 feet. More than 150 families were evacuated as numerous homes and some businesses were flooded.		
Concho River Basin	Major flooding occurred on the 19th-21st along the various branches and tributaries of the Concho River in the vicinity of San Angelo, Texas. The Concho is a major tributary of the Colorado River in Texas. General rainfall of 7 to 10 inches with locally heavier amounts over the headwaters of the basin caused the flooding. Crests 10 feet over flood stage occurred on the North Concho near Carlsbad and on the Middle Concho near Tankersley where two crests occurred two days apart. Extensive loss to bridges, roads, livestock, and farm crops was reported. A man was swept away from a roadside rest area along the river and drowned.	1	N.A.
San Saba River	Major flooding occurred on the 16th-19th along the San Saba River, also a tributary of the Colorado River in Texas; the rainfall on the headwaters of the stream was believed to be in excess of 10 inches. A crest nearly 8 feet over flood stage was reported at Menard, with damage of \$200,000 in the city and nearly \$500,000 in Menard County. Downstream a crest about 6 feet over flood stage occurred at San Saba closing State Highway 16 north of the town. Livestock losses and fence damage was reported along the lower San Saba.	0	700
Llano River	Rainfall of 3 to 4 inches over the North Fork of the Llano on the 16th-17th caused some minor flooding along the stream.	0	N.A.
Colorado River Main Stem (Texas)	Minor to moderate flooding occurred at several points along the main stem of the Colorado River. Crests were generally about 1 to 2 feet over	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

SEPTEMBER 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
WEST GULF OF MEXICO DRAINAGE-Continued			
	flood stage. The heavy rains of 7 to 10 inches which caused flooding along the Concho River tributary, as discussed above, also caused flooding of low-lying areas of Ballinger by both the Colorado River and by Elm Creek, a small tributary. Downstream this rise, augmented by heavy inflow from the Concho and San Saba Rivers, produced flooding around San Saba. No flooding resulted from this rise at downstream points. However, heavy rains of 5 to 10 inches on the 13th caused flooding from above Columbus down to Wharton.		
Navidad-Lavaca River Basin	Record flooding was reported on the Navidad River at Hallettsville, Texas, where a crest of 36.0 feet occurred. The previous record stage of 32.91 feet was established June 13, 1973. Records began at Hallettsville in 1961. The maximum stage of historical record since 1860 is 40 feet in June 1940, according to local residents. A stage of 39 feet was reached in July 1936. Downstream, at Canado, a crest stage of 34.52 feet and 13.5 feet over flood stage occurred. This was well below the record stage of 36.54 feet in July 1940 and the historical record of 39.8 feet in May 1936. Rains averaging 6 inches fell over the headwaters of the Navidad River on the morning of the 13th.	0	N.A.
	Serious flooding also occurred on the Lavaca River with crests 8 feet over flood stage at Hallettsville and 4 feet over flood stage near Edna. Rainfall on the 13th ranged from 3.5 inches downstream to 5 inches in the headwaters.		
Guadalupe River	Significant flooding occurred along the lower Guadalupe River from Gonzales to Dupont, Texas. Crests were from 1 to 6 feet over flood stage. Rains of 2 to 3 inches along the San Marcos tributary from San Marcos to Gonzales were the cause of this flooding.	0	N.A.
Mission River	Rains of up to 14 inches over the basin caused flooding along the Mission River with a crest 2.7 feet over flood stage at Refugio, Texas. Two people were drowned and 3 injured at a low-water creek crossing near Refugio.	2	N.A.
Nueces River Basin	The Frio River, a major tributary of the Nueces in Texas, was above flood stage from the 1st to the 10th from heavy rains of up to 11.5 inches over its headwaters the last two days of August as discussed in the August report. Crests were from 10 feet over flood stage at Derby to 17 feet over flood stage near the mouth of the river at Calliham. This rise on the Frio caused flooding on the main stem of the Nueces on the 6th-11th. Crests were from 1.4 feet over flood stage at Three Rivers to 9 feet over flood stage at Mathis Bridge.	0	N.A.
	From the 9th to the 13th heavy rains fell over		

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

SEPTEMBER 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
WEST GULF OF MEXICO DRAINAGE-Continued			
	the lower Nueces with amounts ranging from 13.5 inches at George West to 4.75 inches downstream at Calallen. Serious flooding occurred around Tilden and from Mathis Bridge down to Calallen. More than 5 feet of flooding occurred at Tilden, 15 feet at Mathis Bridge, and 2.5 feet at Calallen.		
Pecos River Basin in New Mexico	Serious flash flooding occurred on several tributaries of the Pecos River draining the east slope of the Sacramento Mountains in New Mexico during the 17th-24th. Reports of as much as 9 inches of rain for the period were received from that area. Streams affected included the Rio Felix, Rio Penasco, Rio Ruidoso, Seven Rivers, Rocky Arroyo, Dark Canyon, and other smaller unnamed water causes. Damage was primarily agricultural with no lives lost. No flooding was reported on the main stem Pecos River in New Mexico.	0	N.A.
Lower Pecos River (Texas)	Major flooding occurred on the lower Pecos River in Texas on the 20th-22d. Crest stages were the highest or second highest of record at most points. Rainfall storm totals averaged 10 to 12 inches over the basin with amounts of 20 inches or more reported from several stations. Bakersfield had 15.5 inches on the 19th with McCamey and Rankin reporting 10 inches on that date. Mr. Henry Mills, observer at Pandale, reported a measurement of 7.5 inches in 45 minutes southwest of Ozona in the Howards Creek Drainage. Mr. Mills reported that both Howard's Creek, an ungaged tributary, and the Pecos were about 5 feet below the level of 1954, which was the record flood on the extreme lower Pecos. At Shumla, the inflow point on the Pecos to the Amistad Reservoir, a crest stage of 75.3 feet with a discharge of 300,000 c.f.s. was observed the night of the 20th. This is second only to the stage of 96.2 feet and discharge of 948,000 c.f.s., which occurred June 28, 1954. The crest stage of 17.8 feet at Girvin was the second highest of record since 1932. The record stage of 20.5 feet occurred Oct. 5, 1941. At Sheffield the crest stage was estimated at 28.0 feet, 17 feet over flood stage, and is the highest known stage since 1900. However, records are intermittent at that point. Several homes were destroyed and there was widespread damage to birdges, roads, automobiles, oil storage tanks, livestock, and crops.	0	20,000
Devils River	Major flooding occurred along the Devils River and Johnsons Draw, a principal tributary, during the period of the 17th-25th. Rainfall amounts ranged up to at least 16.5 inches for a 3-day period, the 17th-19th, with several reports of more than 10 inches. The crest stage of 24 feet at Bakers Crossing, Texas, was 12 feet over flood stage and was the fourth highest of record.	1	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

SEPTEMBER 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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WEST GULF OF MEXICO DRAINAGE-Continued

The record crest of 35 feet occurred in 1954. A man drowned in a stalled car at a stream crossing near Juno. Several people were evacuated by helicopter around Senora and Ozona. State Highways 163 and 189 were closed.

Rio Grande	Major flooding occurred along the Rio Grande from Presidio to Eagle Pass, Texas. On the 18th a crest 4 feet over flood stage occurred at Boquillas, Texas, as a result of 2 to 3-inch rains in the Big Bend National Park.	0	N.A.
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On the 20th heavy inflow began from the Rio Conchos River in Mexico. This was augmented by inflow from Cibolo Creek, which reached a maximum of 15,000 c.f.s. and was caused by rains averaging 4 inches over the Cibolo Creek watershed on the 21st. This rain fell in a period of 4 hours. The heavy discharge from the two streams caused a crest of 21.5 feet at Presidio - 8.5 feet above flood stage - and the second highest stage in more than 40 years. Downstream, this rise crested 3 feet over flood stage at Boquillas on the 24th.

Heavy inflow into Lake Amistad from the upstream Rio Grande and from the Pecos and Devils Rivers necessitated increasing releases from the reservoir to 60,000 c.f.s. In Vega Verde Estates on the flood plain below the dam, 28 homes and trailers were flooded. Occupants were evacuated without loss of life. These releases caused moderate flooding downstream at Eagle Pass, Texas, with a crest 7.5 feet over flood stage. Later in the month releases from reservoirs on the Rio Conchos in Mexico caused a second, lower crest at Presidio about 7 feet over flood stage.

Severe urban flooding occurred in Albuquerque, New Mexico, on the 20th.

GULF OF CALIFORNIA DRAINAGE

Eldorado Canyon (Nevada)	A major flash flood disaster occurred on the afternoon of the 14th when a "wall of water", described by various witnesses as 10 to 30 feet high, roared down Eldorado Canyon, 40 miles southeast of Las Vegas, into Lake Mojave. This brought death to 9 people and almost totally destroyed the recreational facilities at the Nelson Landing Marina including several trailers, 3 cabins, a cafe, and numerous boats, automobiles, and trucks.	9	N.A.
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The flood was caused by a classical convective runoff-producing storm of less than 50 square miles in area, which was centered about 6 miles upstream from Nelson Landing. Rainfall appears to have averaged more than an inch over the 23 square mile basin, with the storm center receiving at least 3.5 inches. Duration of the

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

SEPTEMBER 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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GULF OF CALIFORNIA DRAINAGE-Continued

storm was less than one hour. Two factors acted to maximize the effect of the runoff. The storm moved downstream at a rate of 5 to 10 miles per hour thus augmenting the runoff from upstream, and the funnel shaped canyon narrows to a width of only about 100 feet at its mouth increasing the height of the flood wave at that point.

Lower Colorado
Basin

Urban flooding occurred in Chino Valley, Arizona, on the 4th with a number of cars inundated and several roads closed. Rainfall of 2 to 4 inches fell in the valley that evening. Urban flooding was also reported on 6th, 13th, and 20th in Tucson and on the 26th in and around Tucson and in Phoenix.

ALASKA

Kenai River

The lake formed by the damming of the Snow River by Snow Glacier began dumping its 4-year accumulation of water about the 10th. Releases from this lake were augmented by heavy rains over the area on the 14th-15th. Flooding of low-lying areas along the Snow River, Kenai Lake, Skilak Lake, and the Kenai River occurred downstream to below Cooper Landing. A record crest stage of 17.2 feet, 3.7 feet above flood stage, was reported at Cooper Landing. Damage was minimized by timely warnings but some homes were flooded in the Kenai Keys development below Cooper Landing.

0

N.A.

PUERTO RICO

Tropical waves passing over the island on the 10th and 18th caused heavy rainfall with urban flooding in the San Juan area. Several precautionary evacuations were ordered by Civil Defense. No river flooding occurred but several streams on the eastern end of the island were the highest since the floods of 1970. By the end of the month no soil moisture deficiencies remained from the long drouth earlier in the year.

FLOOD STAGE DATA

(All dates in September unless otherwise specified)

SEPTEMBER 1974

River and station	Flood stage	Above flood stages —dates		Crest	
		From—	To—	Stage	Date
<u>ATLANTIC SLOPE DRAINAGE</u>	<i>Ft</i>			<i>Ft</i>	
Saddle:					
Lodi, N. J.	5	4	4	5.07	4
Appomattox:					
Farmville, Va.	16	7	8	18.59	7
Mattoax, Va.	21	9	12	23.81	10
Mattoaca, Va.	8	8	10	8.38	9
		11	13	8.32	12
James:					
Columbia, Va.	18	7	7	20.0	7
Richmond, Va. Westham	12	7	8	13.32	8
Dan:					
Danville, Va.	11	7	7	12.0	7
Roanoke:					
Randolph, Va.	21	7	9	24.6	8
Williamston, N. C.	10	13	23	11.0	19
Neuse:					
Neuse, N. C.	14	8	12	17.8	10
Smithfield, N. C.	13	5	6	14.1	5
		9	13	17.2	13
Cape Fear:					
Huske Lock & Dam, N. C.	42	8	11	47.3	9
Elizabethtown, N. C.	20	8	12	24.9	10
Lumber:					
Lumberton, N. C.	9	9	15	10.5	11
		18	22	10.5	19
Pee Dee:					
Pee Dee, S. C.	19	10	11	19.3	10-11
Saluda:					
Chappella, S. C.	14	7	7	14.7	7
Catawba:					
Lookout Shoals Reservoir, N. C.	100	7	8	100.5	7
Savilla:					
Waycross, Ga.	16	13	16	16.5	14
<u>EAST GULF OF MEXICO DRAINAGE</u>					
Escambia:					
Flomaton, Ala.	14	8	10	17.46	9
Tombigbee:					
Coffeeville Lock & Dam, Ala.	43	10	12	45.1	11
Pearl:					
Bogalusa, La.	15	9	10	15.5	10
<u>Missouri Basin</u>					
Pottawatomie Creek:					
Lane, Kans.	23	2	5	27.0	3
Marais des Cygnes River:					
Osawatimie, Kans.	28	3	4	31.4	3
Lacygne, Kans.	25	3	6	28.35	5
Trading Post, Kans.	24	3	5	24.80	4
State Line, Kans.	25	3	4	25.1	4
<u>Ohio Basin</u>					
Embarrass:					
Ste. Marie, Ill.	18	13	14	19.22	13
Lawrenceville, Ill.	11	12	19	16.41	17
White:					
Edwardsport, Ind.	15	14	15	15.1	14
Little Wabash					
Wilcox, Ill.	16	2	4	19.37	3
		13	17	19.74	14
<u>White Basin</u>					
Cache:					
Patterson, Ark.	7	Aug 19	18	18.0	10
<u>Arkansas Basin</u>					
Neosho:					
Lola, Kans.	20	2	3	20.9	3
Chanute, Kans.	23	2	3	25.15	3
Oswego, Kans.	17	3	5	18.60	4
Commerce, Okla.	15	3	6	15.7	4
Black Bear Creek:					
Pawnee, Okla.	17	19	20	21.35	20
Cimarron:					
Dover, Okla.	17	3	3	17.65	3
		20	20	17.40	20
Guthrie, Okla.	10	3	5	10.41	3
		20	20	10.01	20
Bird Creek:					
Avant, Okla.	16	1	1	18.5	20
Sperry, Okla.	21	1	1	23.46	3
		19	21	26.21	21
<u>Red River Basin</u>					
Blue:					
Blue, Okla.	21	17	17	21.43	17
		25	26	22.03	25
Clear Boggy Creek:					
Caney, Okla.	19	25	27	21.85	25
Clover:					
Glover, Okla.	16	11	11	17.23	11
		25	25	16.29	25
Sulphur:					
Hagansport, Texas	44	11	12	45.80	11
		18	19	45.45	18
		25	29	47.95	26
Naples, Texas	22	17	17	23.70	19
Ouachita:					
Camden, Ark.	26	1	9	35.6	4
		29	30	26.3	30
Red:					
Burkburnett, Texas	9	1	1	10.82	26
<u>Atchafalaya Basin</u>					
Atchafalaya:					
Morgan City, La.	7	8	8	7.85	8
<u>WEST GULF OF MEXICO DRAINAGE</u>					
Sabine:					
Emory, Texas	12	22	2	12.4	24
Mineola, Texas	14	14	7	14.96	28
Angelina:					
Lufkin, Texas (Near)	8	15	16	8.45	16
Neches:					
Diboll, Texas (Near)	10	15	18	10.55	17
East Fork Trinity:					
Crandall, Texas	13	18	1	16.56	11
Trinity:					
Dallas, Texas	1	21	21	31.00	21
Liberty, Texas	1	15	23	26.75	19
Moss Bluff, Texas	4	15	Oct 6	7.70	22
Little:					
Little River, Texas (Near)	30	17	17	30.4	17

FLOOD STAGE DATA

(All dates in September unless otherwise specified)

SEPTEMBER 1974

River and station	Flood stage	Above flood stages - dates		Crest	
		From	To	Stage	Date
WEST GULF OF MEXICO DRAINAGE-Continued	Ft			Ft	
Navasota:					
Easterly, Texas (Near)	15	13	23	16.0	16
Bryan, Texas (Near)	12	13	28	13.69	18
North Concho:					
Sterling City, Texas	17	19	20	17.8	19
Carlsbad, Texas	17	19	21	21.0	19
		20	21	22.0	20
Middle Concho:					
Tankersley, Texas	15	18	19	24.54	18
		20	21	25.00	20
Spring Creek:					
Tankersley, Texas	0	20	20	9.3	20
Dove Creek:					
Knickerbocker, Texas	0	20	20	12.35	20
South Concho:					
Christoval, Texas	10	20	21	10.00	20
Elm Creek:					
Ballinger, Texas (Near)	7	19	19	8.36	19
San Saba:					
Menard, Texas	12	16	18	19.82	17
San Saba, Texas (Near)	24	18	19	29.72	18
North Fork Llano:					
Junction, Texas (Near)	14	17	17	14.78	17
Llano:					
Junction, Texas (Near)	14	17	17	14.28	17
Llano, Texas (Near)	12	18	18	12.14	18
Colorado:					
Ballinger, Texas	18	19	19	19.75	19
San Saba, Texas (Near)	30	18	19	30.92	19
Columbus, Texas	24	13	14	26.11	14
Wharton, Texas	26	14	14	26.0	14
Navidad:					
Hallettsville, Texas (Near)	0	13	14	36.0	13
Ganado, Texas (Near)	21	12	19	34.52	15
Lavaca:					
Hallettsville, Texas	22	13	14	30.17	13
Edna, Texas (Near)	21	0	0	25.06	16
Gundalupe:					
Gonzales, Texas	20	13	16	24.9	15
Cuero USGS, Texas	20	15	18	21.0	17
Victoria, Texas	21	15	19	25.45	18
Dupont, Texas	20	13	25	26.3	19
Massena:					
Refugio, Texas	20	0	0	22.7	13
Frio:					
Derby, Texas (Near)	6	0	4	15.88	1
Tilden, Texas	12	0	0	25.32	5
Calliham, Texas	12	2	10	29.28	6
Nueces:					
Tilden, Texas	14	11	20	19.30	14
Three Rivers, Texas (Near)	25	8	10	26.4	8
Mathis Bridge, Texas	15	6	11	24.0	9
		13	19	30.48	14
Calallen, Texas	7	8	22	9.46	15
Pecos:					
Cirvin, Texas	14	20	21	17.8	20
Sheffield, Texas	11	20	22	28.0	20

River and station	Flood stage	Above flood stages - dates		Crest	
		From	To	Stage	Date
WEST GULF OF MEXICO DRAINAGE-Continued	Ft			Ft	
Devils:					
Bakers Crossing, Texas	12	17	25	24.0	17
Rio Grande:					
Presidio, Texas	13	22	1/	21.5	22
				19.9	28
Boquillas, Texas	13	18	19	17.0	18
		24	26	16.0	24
Eagle Pass, Texas	16	21	29	23.5	24
ALASKA					
Kenai:					
Cooper Landing, Alaska	13.5	18	25	17.2	21
A See Previous Monthly Report for Additional Crest Information.					

RAWINSONDE DATA

Average monthly values

ALBANY, N. Y. 1008 MB										ALBUQUERQUE, N. MEY. 840 MB										AMARILLO, TEXAS 896 MB										ANCHORAGE, ALASKA 1008 MB										ANNETTE, ALASKA 1008 MB									
SURFACE										SURFACE										SURFACE										SURFACE										SURFACE									
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Average monthly values

ALASKA

ELY, NEV. 812 MB										EMPALME, MEXICO 1008 MB										FAIRBANKS, ALASKA 997 MB										FLINT, MICH. 989 MB										GLASGOW, MONT. 937 MB									
SURFACE	30	1908	5.2	-7.9	20	3.7	30	12	24.8	20.1	04	.7	30	135	8.0	1.5	01	1.7	29	236	11.0	7.2	24	1.5	30	696	7.7	1.2	35	1.1																			
1000							29	88	26.1	19.8	06	.6	10	177	5.9	.2																																	
950							30	539	25.5	15.5	04	.1	30	536	9.2	-.5	10	2.7	29	570	11.9	6.8	26	4.9	30	1027	10.8	.5	30	4.2																			
900							30	1013	23.1	12.1	16	1.4	30	962	6.6	-2.7	15	3.3	29	1022	9.9	4.1	27	5.6	30	4001	5.9	-4.3	31	7.9																			
850							30	1509	20.6	9.6	12	1.4	30	1449	3.6	-4.4	18	2.8	29	1199	6.9	.7	27	5.0	30	4537	4.6	-8.2	31	4.9																			
800	30	2029	12.1	-3.3	20	2.4	30	2030	16.5	7.0	12	2.4	30	1939	3.0	-7.9	19	2.8	29	2056	2.6	-8.4	27	8.5	30	3081	-1.1	-11.3	31	9.6																			
750	30	24571	12.2	-4.9	11	4.6	30	2576	12.7	3.3	13	2.8	30	2454	-2.5	-11.1	19	2.8	29	2512	.2	-5.0	27	10.6	30	3081	-1.1	-11.3	31	9.6																			
700	30	3145	8.5	-7.8	28	1.2	30	3151	8.7	-2.1	15	4.1	30	2798	-5.9	-14.1	18	2.7	29	3056	-2.8	-10.3	27	12.3	30	3669	-4.3	-15.7	31	10.7																			
650	30	3753	4.0	-10.6	29	2.8	30	3760	4.5	-5.7	18	4.4	30	3175	-9.3	-17.0	18	2.1	29	3661	-3.2	-15.1	27	13.4	30	3669	-4.3	-15.7	31	10.7																			
600	30	4397	-1.2	-14.0	29	4.1	30	4408	.9	-12.4	18	4.3	30	3490	-13.1	-21.8	17	2.0	29	4292	-6.0	-20.3	27	14.3	30	4295	-8.1	-19.5	31	12.0																			
550	30	5085	-5.5	-18.8	30	5.2	30	5102	-3.9	-16.8	19	4.2	30	3447	-17.6	-25.9	19	2.3	29	4767	-10.4	-24.4	27	15.6	30	4966	-12.3	-24.6	30	13.7																			
500	30	5822	-11.1	-25.9	31	7.5	30	5851	-7.6	-20.5	21	4.5	30	3555	-21.9	-31.2	20	1.8	29	5694	-15.1	-29.9	27	17.6	30	5688	-16.9	-30.6	31	15.4																			
450	30	6623	-16.4	-32.9	31	7.3	30	6664	-12.1	-26.1	23	5.6	30	6322	-27.6	-36.7	18	1.4	28	6287	-20.5	-34.4	27	19.3	30	6471	-20.5	-34.4	31	16.3																			
400	30	7497	-23.1	-38.0	31	9.6	30	7555	-17.9	-31.5	23	7.5	30	7158	-34.0	-42.0	17	1.7	28	7348	-26.0	-40.8	26	21.4	30	7325	-28.6	-41.0	31	17.5																			
350	30	8464	-30.7	-44.1	31	10.6	30	8544	-24.1	-39.1	24	9.5	30	8082	-40.9	-45.1	19	2.2	28	8301	-33.6	-46.5	26	24.2	30	8270	-35.8	-45.7	31	18.8																			
300	30	9236	-39.2	-50.6	31	12.2	30	9294	-32.2	-46.6	24	11.6	30	9112	-48.1	-1	23	2.3	28	9363	-41.3	-50.0	26	27.5	29	9315	-44.1	-51	31	20.6																			
250	30	10763	-47.9	-57.5	31	14.2	30	9648	-32.2	-46.6	24	13.1	30	9207	-53.7	7	23	2.1	28	10580	-48.9	-59	26	32.9	29	10516	-52.1	-61	31	22.7																			
200	29	12213	-55.1		29	15.3	29	12286	-53.0		24	12.8	30	11732	-53.3		26	3.9	28	12026	-54.4		29	34.7	29	11948	-55.3		31	23.7																			
175	28	13064	-58.8		29	15.9	29	13235	-59.1		24	12.1	30	12594	-52.7		26	4.8	28	12678	-50.1		27	33.1	29	12798	-55.8		30	23.0																			
150	28	14023	-61.8		29	14.5	29	14186	-65.9		24	10.2	30	13590	-52.1		26	6.2	28	13653	-58.3		26	29.0	29	13778	-56.7		30	19.8																			
125	28	15137	-66.1		29	11.9	29	15275	-72.5		25	6.6	30	14769	-53.1		26	5.7	28	14996	-60.0		26	24.3	28	14932	-58.1		30	19.2																			
100	27	16384	-67.1		30	7.5	28	16576	-74.0		08	.9	30	16206	-53.4		26	5.8	28	16395	-61.0		27	18.8	28	16335	-59.1		30	16.0																			
75	27	17831	-69.6		30	7.2	27	17887	-70.0		07	3.4	30	17642	-51.6		27	5.6	28	17776	-59.1		26	14.3	28	17735	-58.9		31	11.6																			
50	27	18642	-65.2		32	2.0	27	18688	-66.6		08	5.9	30	18501	-53.7		27	5.3	28	19613	-59.9		31	9.8	28	18575	-58.2		31	9.3																			
25	27	19586	-60.8		35	2.3	26	19631	-63.6		09	7.5	29	19463	-54.2		27	5.1	28	19584	-57.1		26	8.8	28	19545	-58.2		31	8.4																			
0	27	20719	-59.6		33	1.3	25	20758	-60.7		09	8.0	29	20650	-55.0		28	4.6	28	20743	-55.4		24	5.6	28	20697	-56.8		31	5.9																			
	27	22122	-57.2		31	1.4	25	22150	-57.8		09	10.0	28	22073	-55.6		30	3.9	26	22176	-53.7		24	2.9	27	22118	-55.5		30	4.1																			
	27	23956	-53.6		28	.6	24	23987	-54.4		09	12.4	28	23903	-55.6		30	3.8	25	23938	-51.3		19	.9	26	23958	-52.6		29	3.5																			
	27	25913	-50.9		29	1.3	24	25911	-52.3		09	12.4	28	25919	-55.9		30	3.8	25	25937	-50.1		19	.9	26	25914	-50.5		28	4.0																			
	27	26600	-48.4		09	1.3	29	26606	-50.0		09	12.2	27	26501	-53.9		31	4.1	20	26687	-48.2		09	1.1	21	26629	-46.6		31	5.3																			
	15	28497	-47.1		09	2.6	9	28479	-48.6		22	28.363	-52.2		31	6.1	20	28593	-45.7		14	1.2	19	28564	-46.8		26	2.6																					
	10	31268	-44.2				7	31278	-44.1		11	31.045	-46.1											8	31291	-41.8																							

Average monthly values

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Average monthly values

SEPTEMBER 1974

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RAWINSONDE DATA

Average monthly values

SEPTEMBER 1974

NOME, ALASKA 1011 MB										NORTH PLATTE, NEBR. 920 MB										LAKESIDE, CALIF. 1013 MB										FARMING, NEBR. 970 MB										PAGO PAGO, AMERICAN SAMOA 1014 MB									
Resultant Wind										Resultant Wind										Resultant Wind										Resultant Wind										Resultant Wind									
No. of observations										No. of observations										No. of observations										No. of observations										No. of observations									
Dynamic height										Dynamic height										Dynamic height										Dynamic height										Dynamic height									
Temperature										Temperature										Temperature										Temperature										Temperature									
Dew Point										Dew Point										Dew Point										Dew Point										Dew Point									
Direction										Direction										Direction										Direction										Direction									
Speed (m.p.h.)										Speed (m.p.h.)										Speed (m.p.h.)										Speed (m.p.h.)										Speed (m.p.h.)									
SURFACE										SURFACE										SURFACE										SURFACE										SURFACE									
1000	27	107	5	6.0	3.3	05	2.0	30	847	6.5	3.0	36	5	30	115	6.3	13.9	12.1	24	1.1	30	577	13.6	6.6	25	3.1	30	124	25.6	20.7	09	5.1	30	574	22.0	18.2	08	6.6	30	1,043	18.7	14.0	08	6.9					
950	30	517	7.0	2.6	11	3.1	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
900	30	559	4.2	-1.4	14	2.3	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
850	30	1,422	1.7	-5.1	14	2.6	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
800	30	1,909	-1.5	-9.0	15	2.9	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
750	30	2,423	-3.0	-14.1	15	3.2	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
700	30	2,966	-5.8	-17.0	15	3.5	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
650	30	3,543	-9.1	-20.8	15	4.1	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
600	30	4,159	-12.9	-24.6	15	4.8	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
550	30	4,816	-17.4	-29.4	15	5.6	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
500	30	5,524	-22.3	-33.7	16	6.3	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
450	30	6,290	-27.3	-37.8	17	7.0	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
400	30	7,128	-33.5	-42.1	17	7.8	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
350	30	8,055	-40.3	-49.8	18	8.5	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
300	30	9,088	-47.8	-57.3	19	9.3	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
250	30	10,272	-53.7	-63.7	20	10.0	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
200	30	11,708	-52.4	-62.4	21	10.7	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
175	30	12,573	-52.0	-62.0	22	11.0	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
150	30	13,573	-51.7	-61.7	22	11.3	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
125	30	14,756	-51.7	-61.7	22	11.6	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
100	30	16,202	-52.0	-62.0	23	11.9	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
80	30	17,446	-52.3	-62.3	23	12.2	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
60	30	18,511	-52.4	-62.4	24	12.5	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
40	30	19,507	-52.4	-62.4	24	12.8	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
20	30	20,493	-51.9	-61.9	24	13.1	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
10	30	21,479	-51.0	-61.0	24	13.4	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
0	30	22,465	-50.1	-60.1	24	13.7	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
0	30	23,451	-49.2	-59.2	24	14.0	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
0	30	24,437	-48.3	-58.3	24	14.3	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
0	30	25,423	-47.4	-57.4	24	14.6	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
0	30	26,409	-46.5	-56.5	24	14.9	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
0	30	27,395	-45.6	-55.6	24	15.2	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
0	30	28,381	-44.7	-54.7	24	15.5	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3	-7.38	2.1	30	1,512	11.2	-1.0	28	5.0	30	1,532	13.7	11.1	08	6.8	30	1,532	13.7	11.1	08	6.8	30	2,045	13.8	5.7	08	6.7								
0	30	29,367	-43.8	-53.8	24	15.8	30	1,033	12.4	3.1	24	1.8	30	1,016	23.3																																		

Average monthly values

SEPTEMBER 1974

* TUCSON, ARIZ. 923 MB										* VANDENBERG AFB, CALIF. 1001 MB										* VICTORIA, TEXAS 1010 MB										* WAKE IS., PACIFIC AREA 1013 MB										* WALLEPS IS., Va, NASA 1017 MB									
SURFACE	30	789	20.6	12.9	14	3.0	29	100	12.9	11.9	31	9	30	33	19.6	18.5	03	1.5	30	5	26.8	22.5	09	4.0	30	4	17.6	16.8	33	1.5																			
950							20	124	13.0	11.8	33	1	30	121	21.1	18.6	05	1.9	30	115	26.9	23.4	09	4.6	30	4	151	19.3	15.5	34	1.4																		
1000							29	555	18.1	6.1	01	2	30	566	19.7	16.1	12	2.8	30	508	23.4	21.2	10	5.7	30	592	17.3	12.5	32	1.2																			
900	30	1.006	22.8	11.1	14	3.8	29	1.013	22.8	1.0	03	1	30	1.031	17.7	12.3	16	3.0	30	1.040	20.5	17.7	10	5.8	30	1.053	14.8	9.8	27	2.4																			
800	30	1.502	20.3	7.9	12	2.0	29	1.510	21.5	1.7	03	9	30	1.520	16.6	6.9	20	2.1	30	1.532	17.9	13.0	10	5.5	30	1.535	12.4	5.9	26	4.0																			
700	30	2.023	17.1	5.5	09	1.3	29	2.032	18.3	3.7	32	4	30	2.035	14.4	3.4	21	2.1	30	2.049	14.5	10.1	10	5.2	30	2.043	10.4	2.2	25	7.0																			
600	30	2.570	13.1	3.3	08	1.2	29	2.580	14.2	6.9	25	9	30	2.578	11.6	5.2	21	2.3	30	2.593	11.8	5.4	10	4.6	30	2.578	7.8	1.7	23	6.8																			
500	30	3.118	8.8	4.0	2	1.1	29	3.127	9.8	10.5	52	10	30	3.121	8.4	4.8	24	3.1	30	3.132	8.4	4.8	10	4.6	30	3.147	5.5	0.6	15	2.5																			
400	30	3.755	4.0	3.6	18	1.2	29	3.766	4.9	13.3	14	1	30	3.761	5.2	6.9	23	3.1	30	3.778	5.3	3.0	10	4.6	30	3.748	2.4	9.3	23	11.9																			
300	30	4.400	-4.7	8.0	18	2.4	29	4.414	-8	16.9	10	1	30	4.410	1.5	12.2	24	3.1	30	4.428	1.5	6.0	10	4.0	30	4.351	-1.1	-12.1	25	12.7																			
200	30	5.090	-5.5	-11.8	18	2.4	29	5.107	-3.5	21.8	05	1	30	5.106	-2.7	-16.1	26	3.1	30	5.124	-2.6	-11.0	09	3.0	30	5.080	-5.0	-17.1	25	14.0																			
100	30	5.832	-9.7	-20.8	21	2.3	29	5.854	-8.4	-27.8	34	2	30	5.856	-7.0	-21.5	25	4.6	30	5.875	-6.8	-16.3	09	3.1	30	5.823	-9.6	-20.8	25	15.3																			
450	30	6.637	-15.0	-26.2	21	3.7	29	6.662	-14.2	-32.2	34	2	30	6.670	-12.0	-26.1	26	5.7	30	6.691	-11.8	-22.5	08	3.0	30	6.629	-14.7	-27.6	26	16.7																			
350	30	7.518	-21.0	-33.9	23	4.6	29	7.544	-20.9	-37.7	33	2	30	7.561	-17.8	-31.3	26	7.1	30	7.583	-17.7	-28.8	05	2.6	30	7.511	-20.8	-32.7	26	18.5																			
250	30	8.458	-25.8	-46.2	24	5.5	29	8.483	-24.6	-43.6	33	3	30	8.499	-21.5	-37.8	26	8.6	30	8.521	-21.8	-37.5	02	1.5	30	8.447	-25.8	-46.2	26	19.8																			
150	30	9.356	-35.1	-47.7	24	10.5	29	9.360	-37.2	-50.7	30	3	30	9.369	-32.8	-46.2	26	9.9	30	9.370	-33.4	-43.6	31	1.8	30	9.372	-33.6	-47.4	26	22.0																			
100	30	10.837	-45.1		24	14.6	29	10.838	-45.5		26	5	30	10.929	-42.5		27	11.1	30	10.923	-43.8		29	2.6	30	10.813	-45.4		26	23.0																			
20	30	12.311	-52.8		25	17.2	28	12.299	-54.0		27	8	30	12.379	-53.8		28	11.4	30	12.363	-55.7		29	4.9	30	12.270	-54.8		26	25.7																			
175	30	13.162	-58.1		24	16.1	28	13.147	-58.5		27	9	30	13.225	-60.2		28	11.5	30	13.221	-62.3		31	6.0	30	13.115	-59.5		27	25.0																			
150	30	14.120	-64.0		24	14.1	28	14.105	-63.4		27	9	30	14.170	-67.0		28	10.1	29	14.157	-69.1		34	5.6	30	14.069	-64.0		27	22.6																			
125	30	15.222	-69.4		27	9.9	28	15.213	-67.9		27	7	30	15.254	-73.2		28	7.2	29	15.233	-74.1		34	3	30	15.175	-67.2		26	19.9																			
100	30	16.562	-71.5		28	4.6	28	16.548	-69.9		29	4	30	16.550	-75.4		29	2	28	16.528	-76.4		34	6.0	30	16.520	-66.9		28	14.9																			
80	27	17.864	-69.7		30	1.6	28	17.855	-67.6		35	1	29	17.861	-70.0		37	3	26	17.827	-72.2		38	9.5	30	17.877	-66.1		28	7.6																			
70	25	18.668	-66.3		30	1.3	28	18.663	-65.5		35	1	29	18.663	-66.8		39	5.1	25	18.621	-69.2		38	11.8	30	18.699	-60.1		25	5.5																			
60	25	19.611	-63.1		30	3.1	28	19.638	-62.3		35	0	27	19.602	-64.0		40	6.3	22	19.553	-65.8		39	15.2	30	19.657	-60.1		25	3.1																			
50	25	20.741	-60.1		30	3.3	28	20.771	-59.9		35	0	27	20.728	-60.5		39	7.5	21	20.669	-62.7		39	17.6	30	20.802	-57.7		15	1.3																			
40	24	22.144	-57.6		30	4.9	26	22.174	-57.4		39	0	29	22.127	-57.7		39	10.0	21	22.055	-59.5		39	20.5	29	22.215	-55.7		10	2.4																			
30	24	23.974	-54.3		30	3.6	26	23.969	-54.0		39	0	29	23.961	-53.5		39	11.4	21	23.874	-55.4		39	22.6	29	24.061	-52.4		10	3.8																			
25	23	25.148	-52.5		30	7.8	26	25.187	-51.8		40	0	28	25.188	-51.9		39	12.5	20	25.046	-53.2		39	23.7	29	25.158	-51.8		10	4.8																			
20	20	26.597	-50.2		30	7.5	26	26.539	-50.0		40	0	27	26.593	-49.2		39	12.0	18	26.492	-51.0		39	24.9	22	26.709	-48.3		10	4.3																			
15	16	28.475	-48.3		38	10.6	26	28.529	-48.0		49	7	24	28.484	-46.9		39	13.2	16	28.375	-48.1		39	25.0	19	28.610	-46.0		10	5.4																			
10					23	31.231	-44.2		40	9	14	31.161	-43.4		48	13.7	7	31.077	-44.2					7	31.378	-41.8																							
7					22	33.646	-40.1		40	11.8																																							
5					12	35.982	-36.7																																										

Average monthly values

2007-2008 172/08

SOLAR RADIATION INTENSITIES

Tabulated in langley's per minute on a surface normal to the direction of the sun.

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Sun's zenith distance										Sun's zenith distance									
A M					P M					A M					P M				
78.7°	75.7°	70.7°	60.0°	*	60.0°	70.7°	75.7°	78.7°		78.7°	75.7°	70.7°	60.0°	*	60.0°	70.7°	75.7°	78.7°	
ALBUQUERQUE, N. MEX.										MADISON, WIS.									
Air mass										Air mass									
4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19		4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69	
1-----	.72	.86	.94	1.09	1.30	1.06	.89	.73	.63	4-----	.81	.91	1.03	1.19	1.19	.93	.79	.67	
2-----	-----	-----	(.87)	1.04	1.30	1.06	.89	.73	.63	5-----	S .62	S .72	S .86	S 1.01	-----	-----	-----	-----	
3-----	-----	-----	-----	1.30	1.30	-----	-----	.80	.67	6-----	-----	I .40	I .55	I .80	-----	-----	-----	-----	
4-----	.78	.89	1.00	1.18	1.35	(1.12)	(.91)	(.74)	(.64)	7-----	-----	-----	-----	M 1.04	-----	-----	-----	-----	
5-----	.80	.87	1.02	-----	1.33	1.13	-----	-----	-----	14-----	.80	.91	S 1.05	S 1.21	S 1.35	1.16	.96	.84	.74
6-----	-----	-----	-----	-----	1.32	1.16	-----	-----	-----	15-----	S .73	S .84	S .97	S 1.15	S 1.34	1.21	1.05	.95	.85
7-----	.79	.92	1.02	1.18	1.35	1.07	.85	.71	.61	16-----	-----	-----	-----	1.14	-----	-----	-----	-----	
8-----	.85	.95	1.07	1.22	1.37	1.15	.97	.79	.67	17-----	-----	-----	-----	S 1.22	-----	-----	-----	-----	
9-----	.77	.89	.99	1.13	1.32	1.17	1.02	(.87)	.73	18-----	-----	.85	I .96	I 1.06	I 1.21	I 1.27	-----	S .80	S .71
10-----	-----	.97	1.14	1.28	1.17	1.08	-----	-----	.79	22-----	.90	.99	S 1.05	S 1.11	-----	S 1.22	S 1.04	S .93	S .82
11-----	.73	.86	1.08	1.24	1.18	1.08	-----	-----	-----	25-----	S .88	S .97	S 1.09	S 1.25	1.37	1.24	-----	-----	
12-----	.77	.87	.99	1.15	1.29	-----	-----	-----	-----	26-----	S .70	S .81	S .95	S 1.13	S 1.22	S 1.07	-----	-----	
19-----	-----	-----	-----	1.22	-----	-----	1.08	-----	-----	Aver-	.78	.83	.96	1.12	1.26	1.18	1.00	.86	.76
23-----	-----	-----	-----	-----	1.11	1.00	.91	-----	-----	ages	-----	-----	-----	-----	-----	-----	-----	-----	
24-----	-----	-----	-----	-----	1.35	1.18	1.04	.92	.80										
25-----	.83	.93	1.04	1.22	1.35	1.19	1.04	.92	.83										
26-----	.84	.97	1.08	1.20	1.36	(1.16)	-----	-----	-----										
27-----	.82	.94	1.06	1.21	1.35	(1.17)	-----	-----	-----										
28-----	.80	.91	1.05	1.25	1.39	1.24	1.08	.95	.84										
29-----	.95	1.05	1.17	1.33	1.47	1.32	1.18	1.06	.95										
30-----	.90	1.00	1.12	1.29	1.41	1.26	1.09	.93	.85										
Aver-	.82	.91	1.03	1.18	1.34	1.18	1.04	.88	.77										
ages																			
MAUNA LOA OBSERVATORY, HAWAII										TUCSON, ARIZ.									
Air mass										Air mass									
3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36		4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56	
1-----	1.20	-----	-----	1.47	-----	-----	-----	-----	-----	1-----	-----	-----	.82	1.17	.93	.75	.60	.45	
2-----	1.13	1.23	1.34	1.44	-----	-----	-----	-----	-----	2-----	-----	-----	.88	-----	.86	.67	.54	.44	
3-----	1.09	1.18	-----	1.39	-----	-----	-----	-----	-----	3-----	-----	-----	-----	1.10	-----	-----	-----	-----	
4-----	1.12	1.20	1.29	1.11	-----	-----	-----	-----	-----	4-----	.56	.67	.80	.96	1.13	-----	-----	-----	
5-----	1.19	1.26	1.34	1.15	1.58	1.41	1.28	1.20	1.04	5-----	.55	.65	.79	.99	1.22	-----	-----	-----	
6-----	1.24	1.29	1.37	1.17	1.73	1.43	1.33	1.24	1.17	6-----	-----	-----	-----	-----	.97	.80	.70	.62	
7-----	1.23	1.29	1.38	1.18	1.74	1.42	1.31	1.22	1.13	7-----	.62	.75	.87	1.03	1.26	.97	-----	.51	
8-----	1.18	-----	1.34	-----	-----	-----	-----	-----	-----	8-----	.60	.71	.85	1.01	1.23	.98	-----	-----	
9-----	1.40	1.24	-----	1.46	-----	-----	-----	-----	-----	9-----	.45	.55	.69	.87	1.10	.91	.73	.65	.49
10-----	1.19	1.28	-----	1.48	-----	-----	-----	-----	-----	10-----	.70	.79	.92	1.08	1.27	1.10	.90	.80	.69
11-----	-----	-----	-----	1.46	-----	-----	-----	-----	-----	11-----	.72	.81	.95	1.10	1.26	-----	-----	-----	
12-----	-----	-----	-----	1.49	1.59	1.43	1.32	1.22	1.17	12-----	-----	-----	.97	1.11	-----	-----	-----	-----	.67
13-----	1.17	1.21	1.33	1.44	1.56	-----	-----	-----	-----	13-----	.71	.80	.92	-----	-----	-----	-----	-----	
14-----	1.18	1.25	1.35	1.46	-----	-----	-----	-----	-----	14-----	.71	.83	.95	1.11	1.36	1.19	.97	.80	.72
15-----	1.21	1.28	1.37	1.48	1.57	1.39	-----	-----	-----	15-----	.63	.75	.87	1.06	1.22	-----	-----	-----	
16-----	1.13	1.26	1.34	1.45	1.57	1.39	-----	1.21	1.12	16-----	-----	-----	-----	1.15	-----	-----	-----	-----	
17-----	1.15	-----	-----	1.43	-----	-----	-----	-----	-----	17-----	-----	-----	-----	1.24	-----	-----	-----	-----	
18-----	1.14	1.21	1.30	-----	-----	-----	-----	-----	-----	18-----	.83	.92	1.02	-----	-----	-----	-----	-----	
19-----	1.15	1.21	-----	-----	1.56	1.41	1.31	1.23	-----	19-----	.85	.95	1.04	1.21	1.35	-----	-----	-----	
20-----	1.15	1.22	1.33	1.44	1.55	1.41	1.31	1.21	1.12	20-----	-----	1.01	1.11	1.25	1.40	1.23	-----	-----	
21-----	1.17	1.23	1.33	1.45	-----	-----	-----	-----	-----	21-----	-----	-----	1.23	-----	-----	-----	-----	-----	
22-----	1.17	1.24	1.34	1.46	1.57	1.35	-----	-----	-----	22-----	.76	-----	1.16	1.30	.98	-----	-----	-----	
23-----	1.21	-----	-----	1.50	-----	1.42	1.26	-----	-----	23-----	.69	.79	.90	1.06	1.22	1.08	.88	.76	
24-----	1.20	1.27	1.38	-----	-----	1.49	1.38	1.28	1.21	24-----	-----	-----	-----	1.08	1.29	.87	.73	-----	
Aver-	1.24	1.24	1.34	1.45	1.60	1.42	1.31	1.23	1.14	25-----	.66	.77	.92	1.09	1.25	1.13	.94	.82	.71
ages										26-----	.78	.91	1.06	1.20	1.35	1.13	.94	-----	
										Aver-	.68	.79	.92	1.06	1.24	1.03	.84	.71	.59
										ages									
OMAHA, NEBR.																			
Air mass																			
4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78											
NO DATA RECEIVED																			

Net radiation in langley's per day (8 a.m. to 8 a.m.) at Palmer, Alaska.

SEPTEMBER 1974

Date,	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langley's, . .	78	120	115	130	105	99	102	94	6	21	75	20	56	8	62	9	32	7	9	11	70	6	-13	10	28	50	7	-7	20	-18	44	

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average ($<3900 \text{ \AA}$) at Ames, Iowa

TOTAL OZONE DATA

These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code 5.2.4.4.

Willard - 21 m. - 1 m.

REFERENCE NOTES

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

Dates in the table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

- + And also on an earlier date or dates.
- D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch of water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA - METRIC UNITS: Data from airport unless otherwise specified.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

- B Number of days maximum 21.1°C. or above for Alaskan Stations.
- Y Peak Gust.
- + And also on an earlier date or dates.
- U Indicates Urban site.
- R Indicates Rural site.
- Ø Station pressures apply to elevations shown in the "Elevations" table of the annual issue of this publication.

Conversion formulae to English Units are as follows:

1 foot = 0.3048 meters
 $F = \frac{9}{5} \times C + 32$
 1 inch = 25.4 millimeters
 1 mile per hour = 0.447 meters per second

HEATING DEGREE DAYS: Data from airport unless otherwise specified.

- U Indicates Urban site.
- R Indicates Rural site.

COOLING DEGREE DAYS: Data from airport unless otherwise specified.

- U Indicates Urban site.
- R Indicates Rural site.

STORM SUMMARY:

- ° Includes crop damage.
- C Crop damage.
- * No occurrence of storms or unusual weather phenomena reported.
- Includes heavy sleet storm.
- # Freezing drizzle and freezing rain, commonly known as glaze.
- Ø For breakdown of "All Others," and for detailed listing of other storms, see the Environmental Data Service, NOAA, monthly publication STORM DATA.
- ± No Storm Data Report received for this State.
- <> Report Incomplete.
- † Storm damages are placed in categories varying from 1 to 9 as follows:
 - 1 Less than \$50
 - 2 \$50 to \$500
 - 3 \$500 to \$5,000
 - 4 \$5,000 to \$50,000
 - 5 \$50,000 to \$500,000
 - 6 \$500,000 to \$5 Million
 - 7 \$5 Million to \$50 Million
 - 8 \$50 Million to \$500 Million
 - 9 \$500 Million to \$5 Billion.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS:

- 1/ Flooding continued at the end of the month.
- NA Not available.

FLOOD STAGE DATA:

- # Highest Stage Observed
- 1/ Continued at end of month
- Highest Stage of Record
- E Estimated
- P Provisional (Flood Stage)
- U Unknown

RAWINSONDE DATA (Average Monthly Values):

All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygrometers. These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

- * Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.
- + Observations for these stations are scheduled at 0000 G.C.T.
- † Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

REFERENCE NOTES - continued

SOLAR RADIATION INTENSITIES: Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

()	Clouds Present	DM	Moderate Dust	HM	Moderate Haze	KS	Slight Smoke
*	Values corresponding to true solar noon	DS	Slight Dust	HS	Slight Haze	M	Moderate Haze-indeter-
BD	Blowing Dust	F	Fog	I	Intense Haze-indeterminable		minable
BN	Blowing Sand	GF	Ground Fog	K	Smoke	N	Sand
D	Dust	H	Haze	KI	Intense Smoke	S	Slight Haze-indeter-
DI	Intense Dust	HI	Intense Haze	KM	Moderate Smoke		minable

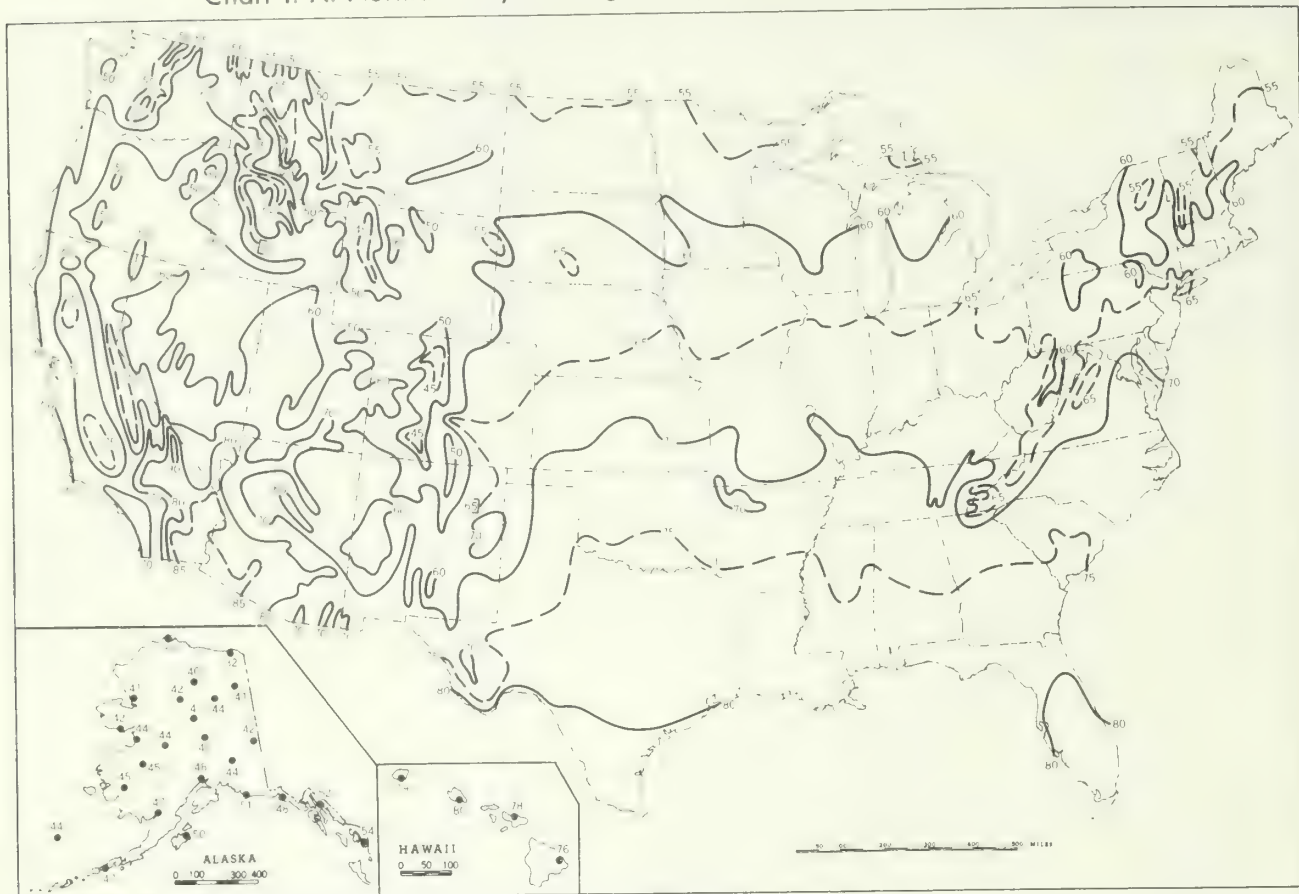
NET RADIATION: The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the NOAA, National Weather Service.

SOLAR ULTRA-VIOLET RADIATION DATA: These data are from an U-V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. This instrument has not been checked by the NOAA, National Weather Service.

TOTAL OZONE DATA: The spectrophotometer measures the total amount of ozone in the atmosphere, i.e., the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded 2 2 2) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e.g., 350 milli-atmo-cm ozone implies an ozone layer 0.350 centimeter thick. The code λ_s designates the type of measurement made.

Chart 1. A. Normal Daily Average Temperature (°F. 1941-70), September.



B. Temperature Departure from 30 - Year Mean (°F 1941-70), September 1974

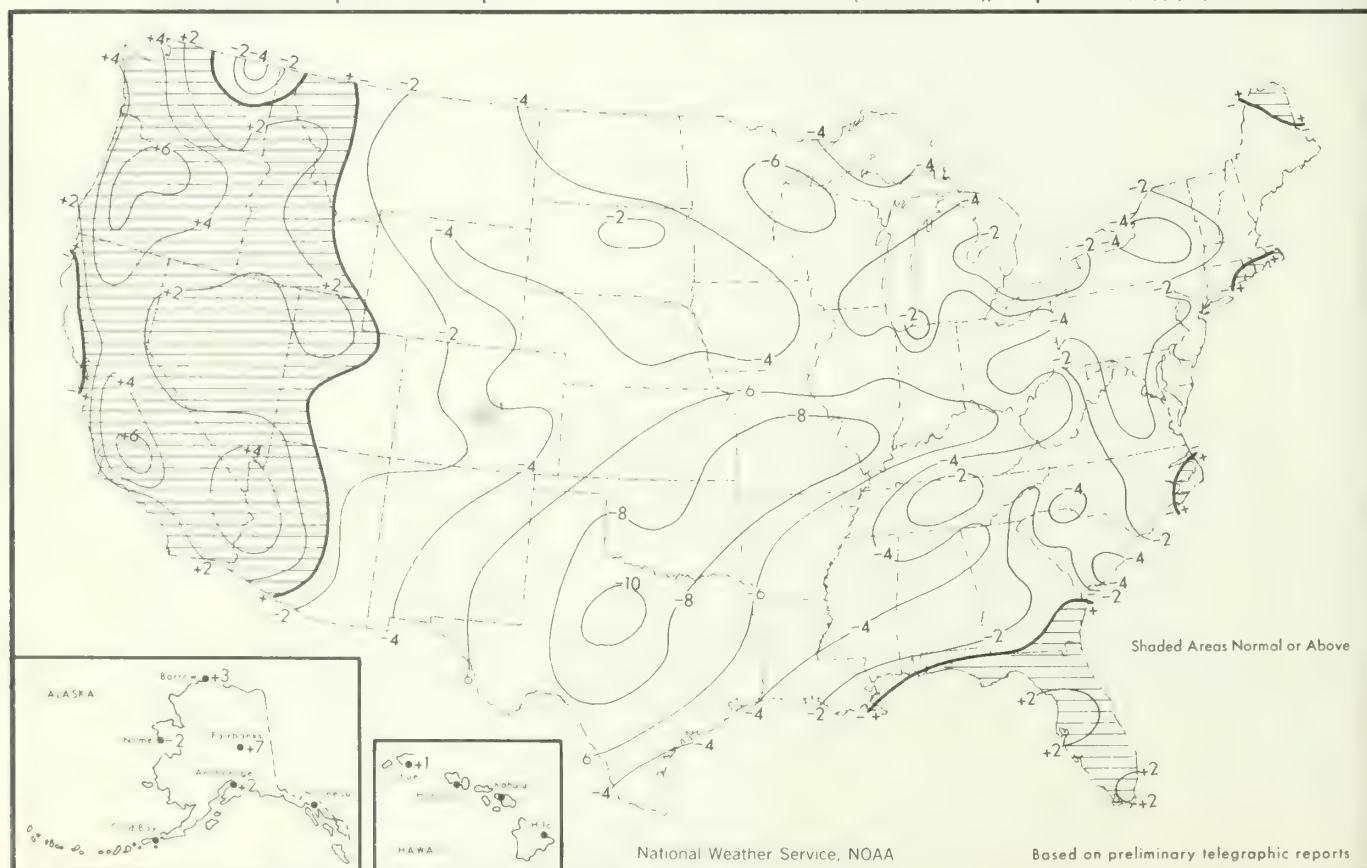
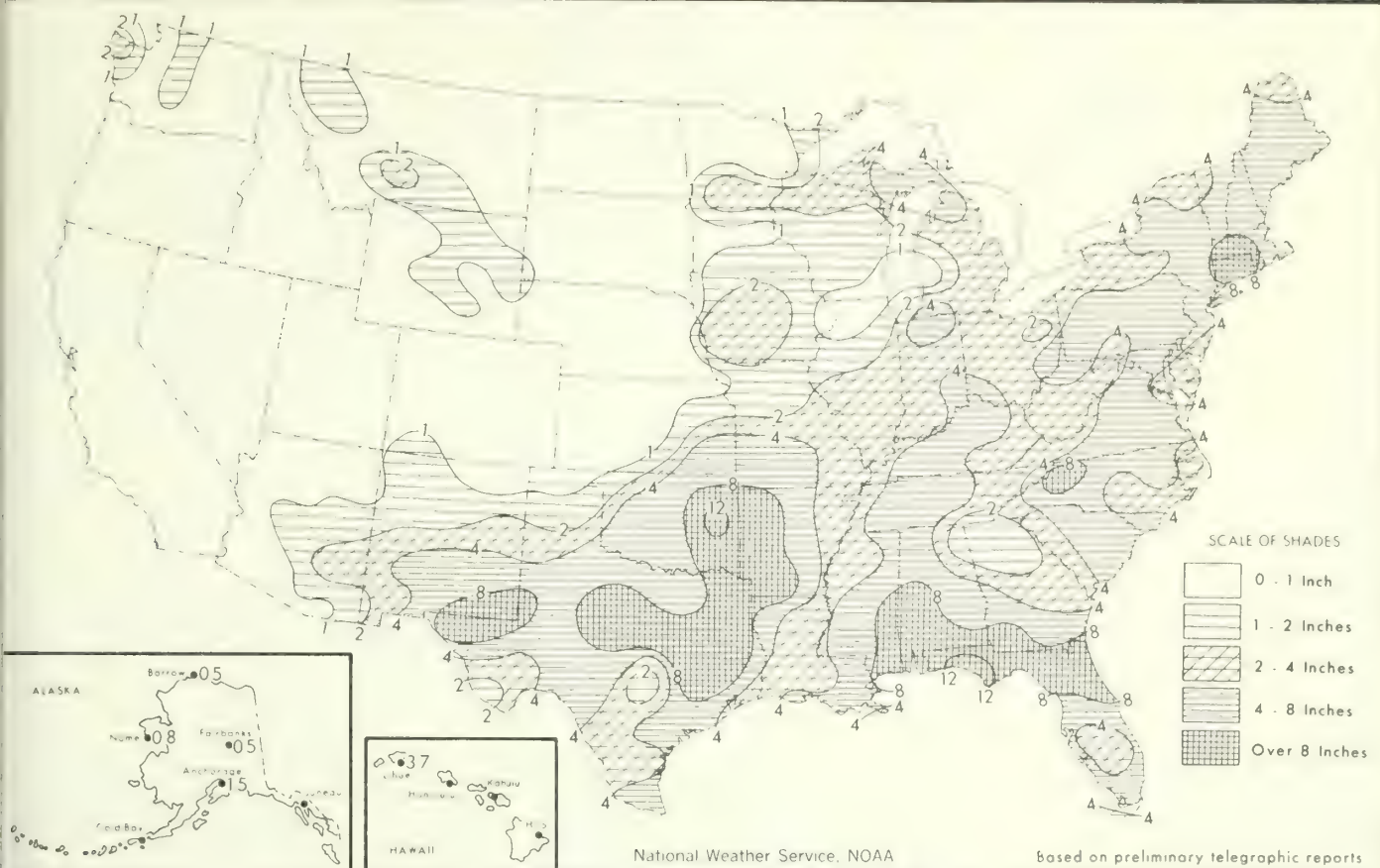


Chart II. A. Total Precipitation (Inches), September 1974



B. Percentage of Normal Precipitation, September 1974

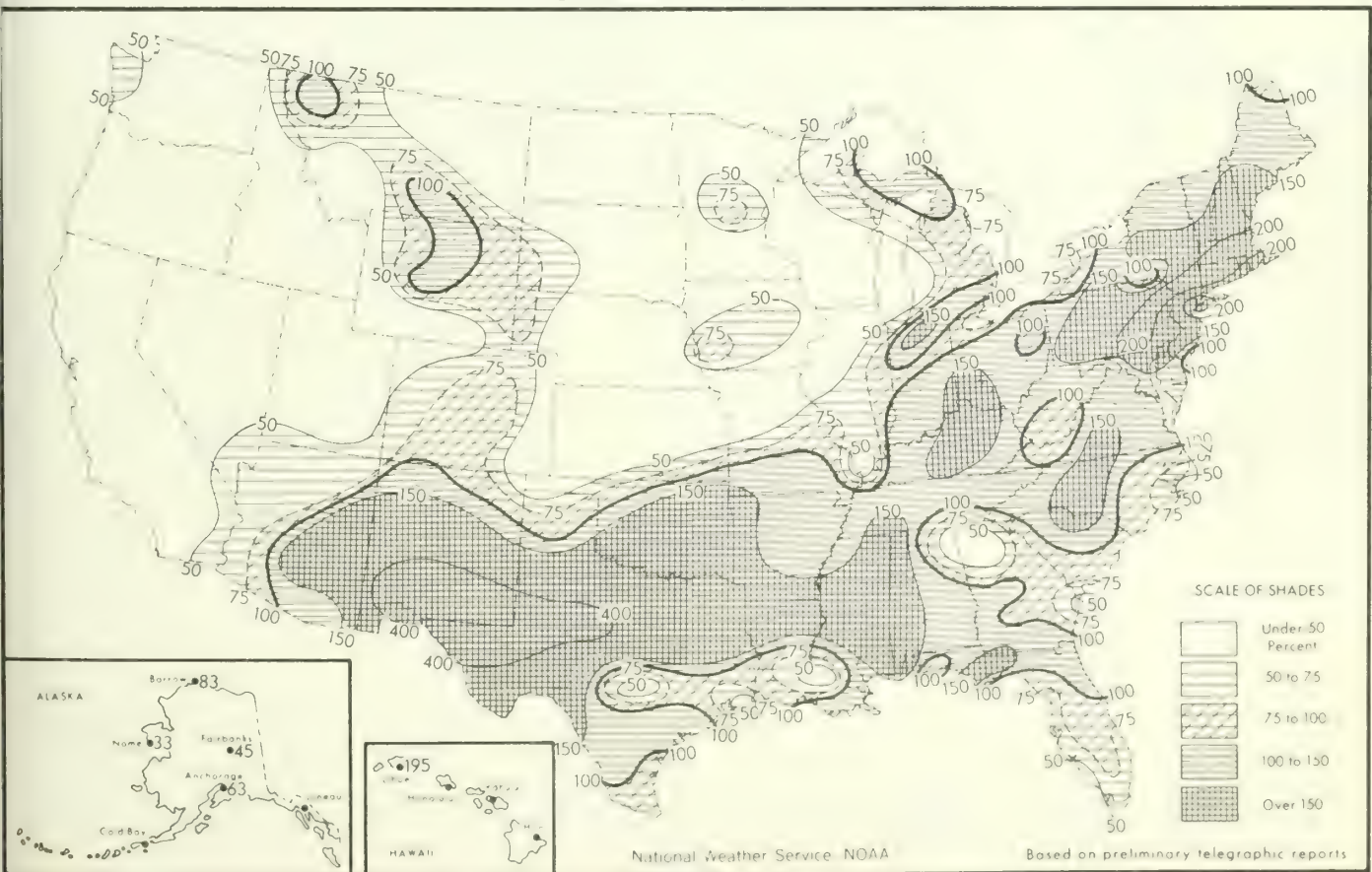
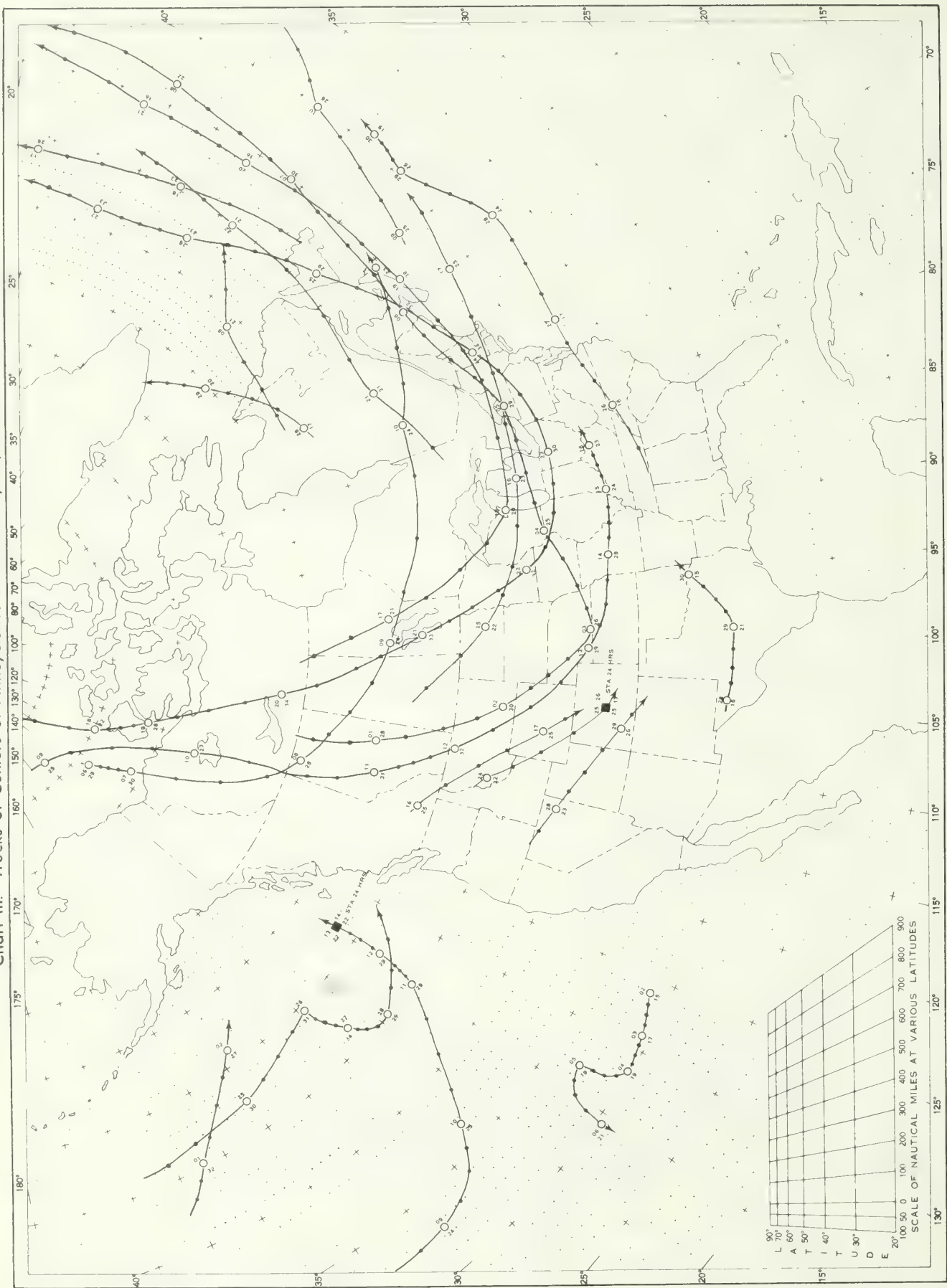
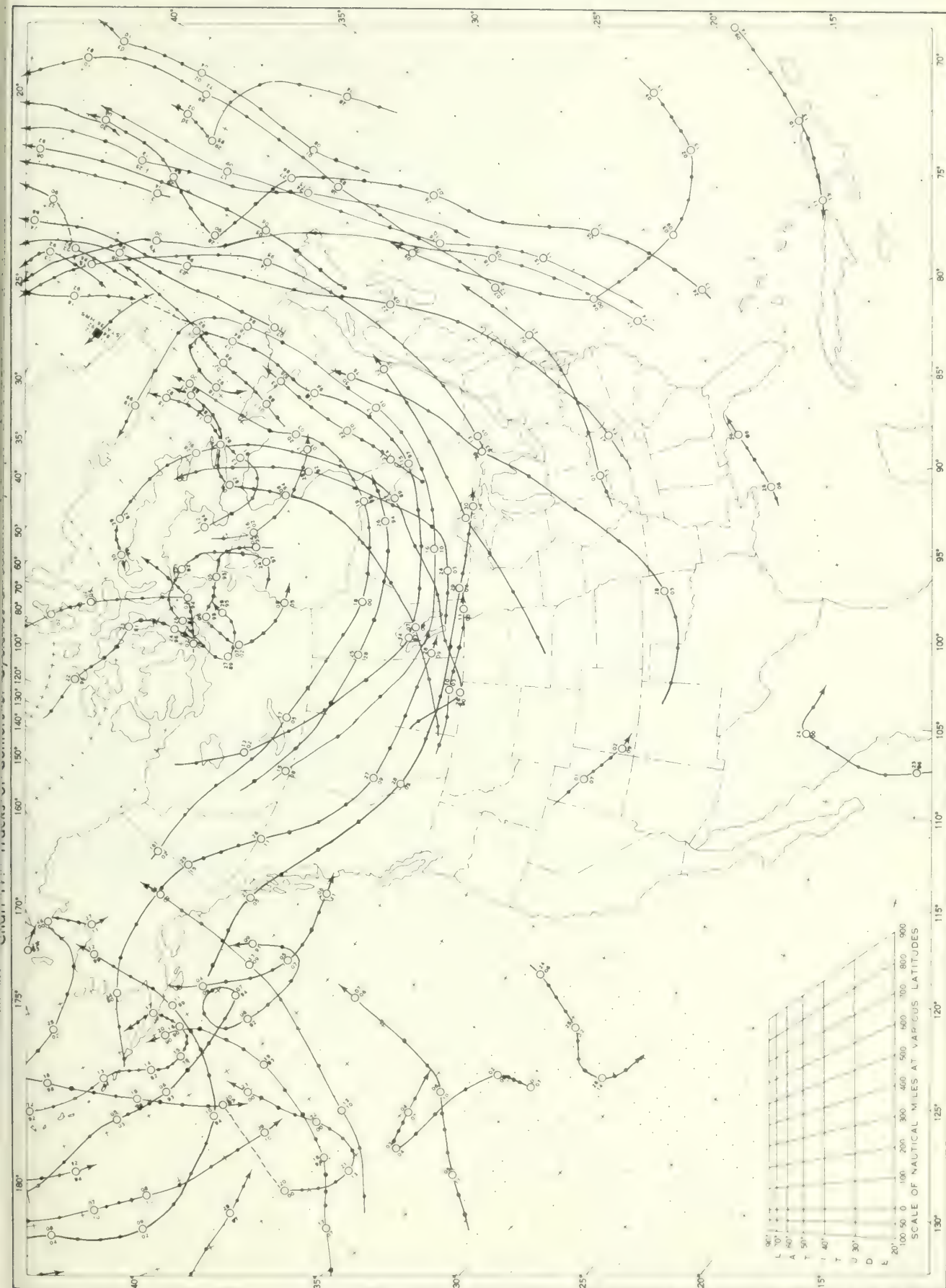


Chart III. Tracks of Centers of Anticyclones at Sea Level, September 1974



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar.
Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track



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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Environmental Data Service



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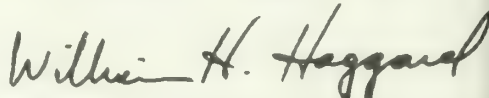
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NOTE: Late reports and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

SUBSCRIPTION PRICE: \$8.85 a year including annual summary; \$7.75 additional for foreign mailing; 60¢ single copy; \$1.65 annual summary. Make checks payable to Department of Commerce, NOAA; send payments and orders to: National Climatic Center, Federal Building, Asheville, N. C. 28801. Attn: Publications.

I certify that this is an official publication of the National Oceanic and Atmospheric Administration and is compiled from records on file at the National Climatic Center, Asheville, North Carolina 28801.


 Director, National Climatic Center

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

OCTOBER 1974

GENERAL SUMMARY OF WEATHER CONDITIONS

Dr. Richard E. Felch, Climatologist

LIGHTS: Rainfall was highly variable during the month with some normally dry areas very wet and some normally wet areas very dry. Twice the normal rainfall hit Texas, Oklahoma, and much of the Desert Southwest. Amounts totaled 4 inches or more as far west as Iowa, helping to replenish soil moisture reserves but causing extensive flooding in some areas.

Generally from the Mississippi River eastward, precipitation was below normal with much of the Southwest less than 20 percent of normal as rainfall amounts were less than 0.50 inch.

Temperatures were generally slightly above normal south of the Mississippi, but considerably below normal in the eastern United States with the greatest departures in the New England area, where they averaged 4 to 7° below normal.

PRECIPITATION: Precipitation was generally light during most of the month with the heaviest amounts falling during the last few days.

During the first week, little or no precipitation fell from Texas through Pennsylvania, with the exception of Florida. A stationary low in the Bahamas produced 1 to 2 inches of rain along the east coast of Florida. In the north central United States, cold air moving southward collided with warm moist air from the Gulf triggering scattered showers, with amounts totaling up to 2 inches in some areas.

Precipitation was light and scattered during most of the next two weeks, except for the Texas-Oklahoma and western Gulf Coast area. Moderate precipitation did fall from Texas to Michigan at midmonth with a cold front passage dropping 1 to 2 inches.

Good moisture fell in many western States and the Desert Southwest during the last half of the month with heavy precipitation across the Nation's midsection as the month ended. Precipitation during the last week totaled 2 inches or more across much of the Corn Belt. The heaviest precipitation was associated with a cold front passage that broke record warm temperatures.

TEMPERATURES: The month began with cool Canadian air dominating the weather picture and temperatures east of the Mississippi averaging 10 to 15° below normal.

Temperatures warmed to near normal during the second week, but returned to cooler than normal during the third week of the month. Conditions continued colder than normal through the week ending the 26th, but the month ended with record warmth across the eastern half of the Country.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

OCTOBER 1974

STATE	Temperature						Precipitation				
	Monthly extremes						Monthly extremes				
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least	
		°F			°F		In.			In.	
Alabama	Robertsdale 1 E	89	15	2 Stations	25	23+	Scottsboro	2.45	Elrod	.37	
Alaska	2 Stations	63	25	Allakaket	-29	30	Little Port Walter	69.35	2 Stations	T	
Arizona	Gila Bend	106	1	Sunrise Mountain	6	31	Mc Nary	8.28	2 Stations	.00	
Arkansas	Corning	88	12	2 Stations	27	22	Okay	8.14	West Memphis	1.36	
California	2 Stations	107	16-	White Mountain 2	4	29	Cuyamaca	5.65	Riverside Fire Station 3	.01	
Colorado	Holly	92	4	Hermit 7 ESE	2	31	Vallecito Dam	6.64	Sedgwick 5 S	.00	
Connecticut	2 Stations	80	7	2 Stations	14	21+	Shuttle Meadow Reservoir	4.36	Hautboy Hill Farm	1.79	
Delaware	2 Stations	81	15-	Middletown 1 WSW	21	22	Lewes 1 SW	2.56	Georgetown 5 SW	1.32	
Florida	Pompano Beach	95	17	Jic Funiak Springs	32	4	West Palm Beach WSO AP	9.30	2 Stations	.00	
Georgia	2 Stations	90	16	Clayton 1 SSW	19	22	Blairsville Exp. Station	2.01	6 Stations	.00	
Hawaii	Lahaina 361, Maui	93	2	Mauna Loa Slope, Hawaii	32	18-	Mount Waialeale 1047, Kauai	22.12	2 Stations	.00	
Idaho	Glenns Ferry	90	2	4 Stations	10	22-	Malad	3.07	Sandpoint Exp. Station	T	
Illinois	Brookport Dam 52	83	12	Mount Carroll	19	2	Canton 1 ESE	3.10	Rantoul	.81	
Indiana	English	83	31	Elwood Waterworks	18	22	Gary	3.40	Muncie Ball State Univ.	.68	
Iowa	Sidney	87	10	Elkader 5 SSW	15	2	Beaconsfield 1 N	6.37	Rock Rapids	.44	
Kansas	Ulysses	94	5	Cimarron	20	15	Herington	8.85	Richfield 1 NE	.49	
Kentucky	Pikeville	85	31	Ashland	16	21	Cumberland	2.70	London FAA AP	.97	
Louisiana	2 Stations	90	30-	4 Stations	35	17+	Mermentau	9.65	New Orleans NF WSO CI	.04	
Maine	Bridgton 3 NNW	83	7	3 Stations	12	29-	Van Buren 2	2.13	Clayton Lake 2	.81	
Maryland	Laurel 3 W	88	15	Oakland 1 SE	18	22	Vienna	3.52	Solomons	.63	
Massachusetts	New Bedford	84	6	Chester 2	9	21	Southbridge 3 SW	3.73	Birch Hill Dam	1.56	
Michigan	Monroe	81	6	Wallis 5 SSW	13	21	2 Stations	3.80	Milford GM Proving Ground	.47	
Minnesota	3 Stations	88	11+	Karlstad	9	2	Babbitt 2 SE	3.38	Minneota	.43	
Mississippi	Fulton 3 W	89	12	Tupelo 2 WNW	27	3	Columbia	5.43	Vancleave	.08	
Missouri	Marble Hill	87	11	Berryman 6 NW	20	21	Plattsburg Waterworks	8.09	Louisiana Starks Nursery	.50	
Montana	2 Stations	89	2	Wisdom	2	6	Mystic Lake	5.64	5 Stations	.00	
Nebraska	2 Stations	90	11+	Ellsworth 15 NNE	14	15	Plattsmouth	4.09	3 Stations	T	
Nevada	Sunrise Manor Las Vegas	100	2	Reese Valley-Smith	9	23	Lake Valley Steward	5.50	2 Stations	.48	
New Hampshire	7 Stations	78	7+	Mount Washington	0	27+	Mount Washington	4.34	Monroe 5 NNE	1.09	
New Jersey	4 Stations	82	7+	Newton St. Pauls Abbey	19	19	Cranford	2.86	Millville FAA AP	1.51	
New Mexico	Deming FAA AP	90	1	Quemado Ranger Station	12	30	Artesia 6 S	7.02	Tohatchi 1 ESE	.53	
New York	4 Stations	82	7+	Old Forge	6	19	Fulton	4.02	Lindley	.31	
North Carolina	New Bern 3 NW	88	13	Banner Elk	14	21	Cape Hatteras WSO	8.99	Monroe 4 SE	T	
North Dakota	Hankinson R R Station	88	11	Belcourt Indian Reservoir	9	12	Fargo WSO AP	3.10	Sherwood 3 N	.04	
Ohio	Gallipolis	83	31	Carpenter	14	21	Chardon	2.92	Put In Bay Perry Monument	.39	
Oklahoma	Hooker 2 SW	92	5	Zoe 1 E	27	16	Pryor 5 SSE	10.40	Fargo	.96	
Oregon	Ilwaco	93	1	Seneca	6	6	Scotts Mills 9 SE	3.58	Silver Lake Ranger Station	.00	
Pennsylvania	3 Stations	83	7+	Bradford FAA AP	11	19	Derry 3 SW	3.05	Sabinsville 3 SE	.53	
Puerto Rico	Dos Bocas	95	13	Adjuntas Substation	56	13	Pico Del Este	30.17	2 Stations	2.54	
Rhode Island	Providence WSO AP	78	6	Kingston	19	21	Woonsocket	3.46	Block Island WSO AP	1.91	
South Carolina	Columbia WSO AP	89	15	2 Stations	22	22	Salem	2.01	3 Stations	.00	
South Dakota	Wagner	91	10	Ralph	10	25	Buffalo Gap	2.47	Platte	.22	
Tennessee	2 Stations	86	14	Mountain City 2	17	21+	Bolton	2.79	Statesville	1.17	
Texas	Mathis	96	14	Lipscomb	28	15	Navarro Mills Dam	10.64	Fort Hancock 4 SE	.00	
Utah	Saint George	95	2	2 Stations	9	30+	Upper American Fork P H	5.00	Wah Wah Ranch	.50	
Vermont	Vernon	79	7	Mount Mansfield	10	27+	Mount Mansfield	2.78	2 Stations	.78	
Virginia	5 Stations	85	31+	Burkes Garden	14	4	Burkes Garden	3.07	Randolf	.16	
Virgin Islands	Christiansted Fort	90	10	Alex Hamilton Field	65	31+	Estate Fort Mylner	15.89	Annas Hope	4.65	
Washington	La Crosse	89	18	Newport	9	5	Clearwater	3.78	2 Stations	.00	
West Virginia	Moorefield 2 SSE	86	6	Seneca State Forest	11	4	Seneca State Forest	3.79	Wheeling Warwood DM 12	.97	
Wisconsin	Gurney	81	10	Jump River 5 E	9	20	Platteville	3.64	Port Wing	.64	
Wyoming	2 Stations	87	2	Big Piney	2	6	Parkman 5 WNW	4.41	Church Buttes Gas Plant	.30	

OCTOBER 1974

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CLIMATOLOGICAL DATA

METRIC UNITS

OCTOBER 1974

State and Station	Elevation (ground)	Pressure		Temperature						Precipitation				Wind			No. of days (sunrise to sunset)	Sky cover, tenths (sunrise to sunset)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Lowest	Date	Max 32.2 °C or above	Min 0 °C or lower	Average dew point	Average relative humidity	Total	mm			mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm

CLIMATOLOGICAL DATA

METRIC UNITS

OCTOBER 1974

State and Station	Elevation (ground)	Pressure		Temperature						Precipitation				Wind			No of days (sunrise to sunset)		Sky cover (tenths (sunrise to sunset))	Possible sunshine											
		Station	Sea level	Average		Departure from normal		Highest		Lowest		Date	Max 32.2 °C or above	Min 0 °C or lower	Average relative humidity	No of days		Snow, ice pellets			Fastest mile (1.6 kilometers)		Direction	Date	Clear, 0-3	Partly cloudy 4-7	Cloudy, 8-10				
				C	F	C	F	C	F	C	F					Total	With thunderstorms				Greatest in 24 hours	25 mm or more						Maximum depth on ground	Resultant speed	Resultant direction	Speed
INDIANA	241	993.6	1024.0	17.1	4.3	10.7	-1.3	25.6	6	-5.0	21	0	9	3.0	33	-39	13	7	0	25	1.8	24	11.6	M	14	9	13	5.8	69		
	241	994.6	1024.0	18.1	4.7	11.4	-1.8	25.6	31	-4.4	21	0	8	6.1	25	-39	12	8	0	0	1.8	22	16.6	K	14	8	14	5.8	57		
	236	994.2	1022.6	17.5	5.8	11.7	-0.2	25.6	31	-2.2	21.4	0	4	5.6	62	-15	33	9	0	15	1.9	23	9.8	31	17	8	9	14	2.2		
IOWA	211	986.5	1021.4	18.4	6.3	12.3	-0.6	25.0	11	-2.2	2	0	4	5.6	68	61	-15	24	9	4	0	1.5	21	11.2	31	14	12	4	13	4.9	
	266	986.9	1021.4	18.9	6.6	12.4	-0.4	26.7	10	-2.9	0	0	4	5.6	45	10.1	46	59	5	0	1.1	21	13.0	5	11	4	14	5.5	62		
	322	982.7	1020.5	16.2	4.7	13.4	-0.5	23.9	4	-3.9	2	0	8	3.9	78	-6	37	10	1	0	1.2	16	14.3	35	21	10	4	15	5.9		
	265	989.5	1021.7	17.1	4.3	10.7	-0.2	25.0	4	-6.1	2	0	7	3.9	96	104	-43	43	10	5	0	1.0	21	11.6	31	6	9	12	4.6	59	
KANSAS	448	966.8	1020.0	21.2	7.8	14.6	-0.7	31.1	4	0.0	15	0	1	7.2	48	50	-4	24	8	2	0	2.1	17	16.1	5	4	8	15	4.4	78	
	787	928.2	1018.8	22.3	8.9	15.6	1.2	32.8	5	0.0	15	1	1	7.8	48	43	-7	19	7	3	0	2.4	17	19.2	5	3	10	14	4.8	60	
	1114	921.3	1018.6	20.6	4.1	12.4	-0.8	31.1	3	-2.0	15	0	5	1.7	45	24	-1	11	3	0	0.8	19	12.5	19	21	15	10	4.7	56		
	267	989.5	1021.5	21.4	7.9	14.7	-0.4	27.2	17	-0.6	15	0	3	5.1	131	-64	49	10	7	0	1.4	17	14.8	5	4	7	16	4.2	55		
KENTUCKY	403	972.6	1020.6	21.5	10.2	15.8	-0.5	28.9	11	-0.6	15	0	3	7.0	73	87	-24	39	10	7	0	2.8	18	18.3	5	4	7	11	4.5	53	
	264	992.6	1024.4	18.3	5.2	11.8	-2.0	26.7	31	-4.4	21	0	5	6.4	46	39	-15	25	8	0	1	0.8	24	8.0	22	14	10	11	5.5	56	
	294	988.8	1024.8	18.9	5.8	12.4	-1.9	26.1	31	-3.8	21	0	3	5.6	67	27	-17	24	4	0	1	0.8	18	8.9	20	14	13	10	4.5	56	
	145	1006.1	1026.0	18.9	5.5	12.7	-1.8	25.1	31	-1.7	21	0	3	6.1	46	53	-7	42	7	0	0.9	16	11.7	5	29	13	9	4	4.7	56	
LOUISIANA	28	1018.0	1022.3	25.9	10.3	18.4	-0.4	33.0	14	5.0	17	0	0	12.2	74	22	-61	15	4	1	0	0.8	8	9.0	36	15	12	9	4	4.5	54
	26	1019.6	1022.4	26.7	12.3	19.6	-0.7	29.4	31	6.1	17	0	0	12.5	70	41	-26	27	3	1	0	1.7	9	9.8	14	29	19	7	5	3.4	54
	3	1207.7	1021.7	27.3	13.4	20.5	-0.6	33.0	12	6.7	16	0	0	14.4	74	105	17	90	3	2	0	2.1	8	11.2	14	28	15	12	4	4.0	52
	77	1021.8	1021.8	26.1	12.7	19.4	-1.6	30.0	12	7.2	17	0	0	14.4	96	57	-7	48	3	2	0	1.9	6	9.8	18	29	21	8	3	3.2	82
MAINE	190	993.2	1022.2	25.8	12.2	19.0	-0.7	29.4	18	6.1	16	0	0	14.4	74	96	-23	61	5	2	0	1.0	12	11.2	26	28	12	8	11	4.7	82
	190	993.2	1022.2	25.8	12.2	19.0	-0.7	29.4	18	6.1	16	0	0	14.4	74	96	-23	61	5	2	0	1.0	12	11.2	26	28	12	8	11	4.7	82
	115	1018.3	1020.6	13.1	1.1	7.1	-2.6	24.4	5	-7.8	28	0	21	0.6	46	29	-56	10	11	0	1	1.4	26	12.5	5	19	6	12	7.3	62	
MARYLAND	45	1018.3	1020.0	19.4	6.4	12.9	-1.2	26.7	15	-2.2	21	0	4	5.6	46	39	-33	39	2	0	0	1.3	29	9.6	NW	20	14	11	5	3.9	71
MASSACHUSETTS	192	1023.3	1021.3	15.1	5.0	8.7	-3.9	24.4	5	-4.4	21	0	9	2.2	62	79	-7	73	6	0	0	2.6	28	11.6	SSW	25	13	9	9	4.7	72
	301	983.7	1021.7	12.9	2.4	7.7	-3.2	22.8	4	-5.0	21	0	9	3.8	74	88	-2	69	6	1	1	3.0	29	12.1	30	15	12	8	11	4.9	69
MICHIGAN	210	995.6	1021.6	12.8	1.0	4.9	-1.6	22.2	28	-6.1	2	0	15	1.1	67	36	-14	11	12	1	8	1.4	25	12.1	NW	17	5	18	7.2	43	
	183	998.7	1022.9	16.2	4.0	8.3	-2.2	25.0	6	-7.2	21	0	4	2.8	69	18	-46	17	7	0	1	1.9	23	9.8	33	17	18	14	5.9	54	
	193	998.7	1022.9	16.2	4.0	8.3	-2.2	25.0	6	-7.2	21	0	12	0.6	65	21	-42	7	9	0	1	2.3	26	12.5	W	6	10	7	14	4.9	54
	235	992.5	1020.5	15.3	2.5	8.9	-1.7	22.8	5	-7.2	21	0	13	1.1	63	37	-20	15	7	1	1	1.9	24	9.8	28	6	8	15	4.8	53	
MINNESOTA	236	992.6	1020.5	14.6	1.9	8.3	-2.8	23.9	31	-7.8	21	0	13	3.3	73	62	-30	38	9	1	10	1.9	22	13.4	SW	6	6	17	4.8	53	
	250	975.7	1021.7	12.4	1.2	6.8	-1.8	20.6	10	-6.7	19	0	15	0.2	74	36	-10	15	9	1	1	1.6	25	10.3	27	14	7	17	3.5	55	
	258	982.1	1021.6	14.9	1.4	8.7	-2.2	23.9	31	-8.3	21	0	15	0.2	45	37	-22	19	7	2	1	1.6	24	11.6	NW	6	9	7	17	4.8	54
	186	995.6	1022.4	11.3	3.3	8.2	-1.1	23.3	11	-1.1	19	0	9	4.4	74	52	-16	24	7	1	102	2.0	22	17.0	SW	21	4	11	16	4.8	48
MISSOURI	191	995.6	1022.4	11.3	3.3	8.2	-1.1	23.3	11	-1.1	19	0	9	4.4	74	52	-16	24	7	1	102	2.0	22	17.0	SW	21	4	11	16	4.8	48
	228	993.2	1020.1	9.9	0.3	5.1	-2.8	14.9	11	-4.3	18	0	16	1.1	77	89	-17	31	14	1	20	0.5	29	13.0	NW	14	4	4	21	8.1	74
MINNESOTA	435	967.5	1017.9	10.6	1.3	6.0	-1.4	23.3	11	-7.8	2	0	12	0.6	71	40	-19	20	8	2	26	0.9	23	22.4	NW	31	7	8	14	4.7	50
	350	975.3	1019.0	11.9	0.4	6.2	-0.2	23.3	10	-8.3	2	0	15	-0.6	44	41	-4	2	10	4	2	1.0	23	10.7	22	21	6	10	13	4.7	50
	294	946.8	1020.5	15.0	3.8	9.9	-0.1	24.3	13	-5.6	2	0	7	3.3	64	43	-18	17	8	4	0	2.1	21	15.2	SW	10	4	10	13	4.7	50
	394	973.2	1021.4	15.8	3.4	9.4	-0.2	24.4	10	-6.7	2	0	17	3.3	75	40	-65	18	17	8	4	0	2.1	22	13.4	18	21	13	4.7	50	
SOUTH DAKOTA	313	982.7	1020.4	15.7	3.1	9.2	-0.4	24.4	11	-11.7	2	0	17	3.3	75	40	-65	18	17	8	4	0	2.1	22	13.4	18	21	13	4.7	50	

CLIMATOLOGICAL DATA

METRIC UNITS

OCTOBER 1974

State and Station	Elevation (ground)	Pressure		Temperature							Precipitation					Wind			No. of days (sunrise to sunset)		Sky cover, tenths (sunrise to sunset)	%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days	Max 37.2 °C or above	Min. 0 °C or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	With thunderstorms			Total	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm

CLIMATOLOGICAL DATA

METRIC UNITS

October 1974

State and Station	Pressure		Temperature						Precipitation					Wind		No of days (sunrise to sunset)	Sky cover, tenths (sunrise to sunset)													
	Elevation (ground)	Station ID	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Lowest	Date	Max 32.2 °C or above	Min 0 °C or lower	Average dew point	Average relative humidity	Snow, ice pellets			Speed (1.6 kilometers)	Direction	Date										
															Total						Greatest in 24 hours	25 mm or more	No of days	With thunderstorms	Maximum depth on ground	Residual speed	Residual direction			
NORTH CAROLINA ASHFORD FARM MATERIAL C 2 224 993.3 1023.8 21.8 5.4 1021.7 1023.6 21.7	652	947.9	1024.6	21.8	3.3	12.6	-1.2	26.1	3.0	22	0	8	9.4	33	0	29	4	0	0	0	0	35	16	16	22	6	3	2	8	
	2	1024.7	1023.0	21.0	11.8	16.4	-2.1	26.7	16.4	22	0	0	11.7	75	228	107	134	4	0	0	0	1.4	5	10.7	35	16	16	22	6	3
	224	993.3	1023.8	21.0	7.3	14.6	-1.9	26.7	3.1	22	0	0	11.7	75	228	107	134	4	0	0	0	0.8	2	13.0	24	16	16	22	6	3
	214	991.9	1023.9	21.0	6.4	14.2	-1.9	26.7	3.1	22	0	4	11.7	44	12	0	13.0	4	0	0	0	0.8	2	13.0	24	16	16	22	6	3
	132	1021.5	1023.6	21.2	5.9	13.6	-2.1	26.7	3.1	22	0	4	11.7	44	12	0	13.0	4	0	0	0	0.8	2	13.0	24	16	16	22	6	3
NORTH CAROLINA BIRMAK FARM 219 956.1 1019.2 15.7 -0.1 945.5	552	958.3	1019.2	16.3	-0.9	7.7	-0.5	26.1	10.4	25	0	17	-1.1	41	19	0	15	2	0	0	0	0.3	34	16.5	N	13	13	57	5	
	219	956.1	1019.2	15.7	-1.5	8.6	0.3	26.3	10	2	0	17	-1.1	41	79	0	41	4	0	0	0	0.3	34	16.5	N	13	13	57	5	
	549	945.5	1019.0	16.7	-0.1	8.3	0.7	26.1	2	2	0	17	-1.1	41	79	0	41	4	0	0	0	0.3	34	16.5	N	13	13	57	5	
																						0.3	34	16.5	N	13	13	57	5	
																						0.3	34	16.5	N	13	13	57	5	
NORTH CAROLINA CIN. INMAN ARRI C 212 994.7 1024.6 15.9 5.4 1024.4 18.1 5.1 993.9 1024.4 17.4 5.3 987.5 1024.2 16.4 5.3 998.1 1023.4 17.2 2.2 947	368	979.1	1024.1	15.9	4.9	10.4	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
NORTH CAROLINA CIN. INMAN ARRI C 212 994.7 1024.6 15.9 5.4 1024.4 18.1 5.1 993.9 1024.4 17.4 5.3 987.5 1024.2 16.4 5.3 998.1 1023.4 17.2 2.2 947	368	979.1	1024.1	15.9	4.9	10.4	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
NORTH CAROLINA CIN. INMAN ARRI C 212 994.7 1024.6 15.9 5.4 1024.4 18.1 5.1 993.9 1024.4 17.4 5.3 987.5 1024.2 16.4 5.3 998.1 1023.4 17.2 2.2 947	368	979.1	1024.1	15.9	4.9	10.4	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
NORTH CAROLINA CIN. INMAN ARRI C 212 994.7 1024.6 15.9 5.4 1024.4 18.1 5.1 993.9 1024.4 17.4 5.3 987.5 1024.2 16.4 5.3 998.1 1023.4 17.2 2.2 947	368	979.1	1024.1	15.9	4.9	10.4	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
NORTH CAROLINA CIN. INMAN ARRI C 212 994.7 1024.6 15.9 5.4 1024.4 18.1 5.1 993.9 1024.4 17.4 5.3 987.5 1024.2 16.4 5.3 998.1 1023.4 17.2 2.2 947	368	979.1	1024.1	15.9	4.9	10.4	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
NORTH CAROLINA CIN. INMAN ARRI C 212 994.7 1024.6 15.9 5.4 1024.4 18.1 5.1 993.9 1024.4 17.4 5.3 987.5 1024.2 16.4 5.3 998.1 1023.4 17.2 2.2 947	368	979.1	1024.1	15.9	4.9	10.4	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
NORTH CAROLINA CIN. INMAN ARRI C 212 994.7 1024.6 15.9 5.4 1024.4 18.1 5.1 993.9 1024.4 17.4 5.3 987.5 1024.2 16.4 5.3 998.1 1023.4 17.2 2.2 947	368	979.1	1024.1	15.9	4.9	10.4	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
NORTH CAROLINA CIN. INMAN ARRI C 212 994.7 1024.6 15.9 5.4 1024.4 18.1 5.1 993.9 1024.4 17.4 5.3 987.5 1024.2 16.4 5.3 998.1 1023.4 17.2 2.2 947	368	979.1	1024.1	15.9	4.9	10.4	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3	23	14	11	6	14	4.2	
	212	994.7	1024.6	15.9	5.4	10.7	-1.4	26.4	31	22	0	4	9.0	38	0	15	1	0	0	0	1.6	24	11.3							

1976

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CLIMATOLOGICAL DATA

METRIC UNITS

January 1974

State and Station	Elevation (ground)	Pressure		Temperature										Precipitation					Wind				No. of days (sunrise to sunset)			Possible sunshine (sunrise to sunset)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Lowest	Date		No. of days	Max 32° or above	Min 0° or lower	Average dew point	Average relative humidity	Total	mm	mm	mm	mm	mm	mm	mm	mm		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm

(Base 65° F.)

OCTOBER 1974

12

COOLING DEGREE DAYS

(Base 60 F.)

State and station	Current season		State and station	Current season		State and station	Current season		State and station	Current season	
	This month	Period January through this month		This month	Period January through this month		This month	Period January through this month		This month	Period January through this month
ALABAMA			HAWAII			NEBRASKA			SOUTH CAROLINA		
BIRMINGHAM	28	1625	HILO	376	3110	GRAND ISLAND	4	1034	CHARLESTON	64	2299
MOBILE	30	2467	HONOLULU	427	3974	LINCOLN	10	1128	CHARLESTON U	69	2162
MONTGOMERY	29	1915	KAMULUI	428	3471	NORFOLK	4	911	CHESAPEAKE	51	2165
ALASKA			LIMU	449	3790	NORTH PLATTE	3	698	COLUMBIA-PORTAGE	19	1425
ANCHORAGE	25	1	IDAHO			OMAHA	4	1021	SOUTH DAKOTA		
ANNETTE	0	12	BOISE	0	851	SCOTT'SBLUFF	0	729	ABERDEEN	3	673
BARTER ISLAND	0	0	LEWISTON	1	906	VALENTINE	3	874	HURON	1	771
BEELINE	3	3	POCATELLO	0	460	NEVADA			RAPID CITY	2	697
BETHEL	3	61	ILLINOIS			FLYNN	0	360	SIOUX FALLS	6	751
BIRMINGHAM	28	1625	CAIRO U	31	1465	ELY	0	209	TENNESSEE		
BIRMINGHAM	28	1625	CHICAGO O HARB	12	610	LAS VEGAS	195	3403	CHATTANOOGA	5	802
BIRMINGHAM	28	1625	CHICAGO MIDWAY	10	770	RENO	0	258	KNOXVILLE	19	1323
BIRMINGHAM	28	1625	MOLINE	3	707	WINNEMUCCA	0	580	NASHVILLE	46	1817
BIRMINGHAM	28	1625	PEORIA	8	817	NEW HAMPSHIRE	0	302	NASHVILLE	30	1418
BIRMINGHAM	28	1625	ROCKFORD	6	679	CONCORD	0	302	OKLAHOMA	2	953
BIRMINGHAM	28	1625	SPRINGFIELD	17	982	MT WASHINGTON OBS	3	7	TEXAS		
BIRMINGHAM	28	1625	INDIANA			NEW JERSEY			ABILENE	62	2259
BIRMINGHAM	28	1625	EVANSVILLE	14	1214	ATLANTIC CITY	2	900	AMARILLO	20	1396
BIRMINGHAM	28	1625	FORT WAYNE	2	727	ATLANTIC CITY U	0	823	AUSTIN	157	2711
BIRMINGHAM	28	1625	INDIANAPOLIS	3	868	NEWARK	1	1122	BROWNSVILLE	275	3682
BIRMINGHAM	28	1625	SOUTH BEND	11	155	TRENTON U	1	970	DALLAS FT WORTH	289	3538
BIRMINGHAM	28	1625	IOWA			NEW MEXICO			DALLAS FT WORTH	153	2556
BIRMINGHAM	28	1625	BURLINGTON	0	760	ALBUQUERQUE	6	1353	DEL RIO	177	3174
BIRMINGHAM	28	1625	DES MOINES	4	974	CLAYTON	3	768	EL PASO	54	2053
BIRMINGHAM	28	1625	DUBUQUE	0	495	ROSWELL	16	1655	GALVESTON U	253	2864
BIRMINGHAM	28	1625	SIOUX CITY	4	980	NEW YORK			HOUSTON INTERCON	196	2743
BIRMINGHAM	28	1625	WATFORD	0	642	ALBANY	0	385	LUBBOCK	18	1740
BIRMINGHAM	28	1625	KANSAS			BINGHAMTON	0	172	MIDLAND	50	2265
BIRMINGHAM	28	1625	CONCORDIA	19	1262	BUFFALO	0	428	PORT ARTHUR	163	2587
BIRMINGHAM	28	1625	DODGE CITY	36	1478	NEW YORK U	1	1082	SAN ANGELO	47	2407
BIRMINGHAM	28	1625	GOODLAND	3	814	NEW YORK KENNEDY	1	947	SAN ANTONIO	124	2645
BIRMINGHAM	28	1625	TOPEKA	12	1173	NEW YORK LA GUARDIA	0	1013	VICTORIA	271	3266
BIRMINGHAM	28	1625	WICHITA	23	1466	ROCHESTER	0	540	WACO	169	2801
BIRMINGHAM	28	1625	KENTUCKY			SYRACUSE	1	405	WICHITA FALLS	73	2371
BIRMINGHAM	28	1625	COVINGTON	12	898	NORTH CAROLINA			UTAH		
BIRMINGHAM	28	1625	LEXINGTON	11	864	ASHEVILLE	1	731	MILFORD	0	708
BIRMINGHAM	28	1625	LOUISVILLE	8	1045	CAPE HATTERAS R	42	1652	SALT LAKE CITY	3	1191
BIRMINGHAM	28	1625	LOUISIANA			CHARLOTTE	15	1327	WENDOVER	0	1348
BIRMINGHAM	28	1625	ALEXANDRIA	43	2278	GREENSBORO	15	1171	VERMONT		
BIRMINGHAM	28	1625	BATON ROUGE	103	2559	RALEIGH	9	1304	BURLINGTON	1	442
BIRMINGHAM	28	1625	LAKE CHARLES	143	2560	WILMINGTON	53	1946	VIRGINIA		
BIRMINGHAM	28	1625	NEW ORLEANS	93	2565	NORTH DAKOTA	0	409	LYNCHBURG	7	925
BIRMINGHAM	28	1625	NEWPORT	77	2129	BISMARCK	0	409	NORFOLK	26	1499
BIRMINGHAM	28	1625	MAINE			FARGO	1	444	RICHMOND	21	1273
BIRMINGHAM	28	1625	CARIBOU	0	116	WILLISTON	0	440	ROANOKE	3	889
BIRMINGHAM	28	1625	PORTLAND	0	296	OHIO			WALLOPS ISLAND	5	992
BIRMINGHAM	28	1625	MARYLAND			AKRON	1	584	WASHINGTON		
BIRMINGHAM	28	1625	BALTIMORE	8	1027	CINCINNATI	10	1021	OLYMPIA	3	118
BIRMINGHAM	28	1625	MASSACHUSETTS			CLEVELAND	3	567	QUILLAYUTE	0	40
BIRMINGHAM	28	1625	BLUE HILL OBS R	0	524	COLUMBUS	1	836	SEATTLE	0	184
BIRMINGHAM	28	1625	BOSTON	1	643	DAYTON	3	832	SEATTLE-TACOMA	0	196
BIRMINGHAM	28	1625	WORCESTER	2	430	MANSFIELD	2	639	SPOKANE	0	405
BIRMINGHAM	28	1625	MICHIGAN			TOLDO	5	430	STAMPEDE PASS R	2	77
BIRMINGHAM	28	1625	ALPENA	0	221	YOUNGSTOWN	0	436	WALLA WALLA U	4	968
BIRMINGHAM	28	1625	DETROIT	4	853	OKLAHOMA			YAKIMA	0	546
BIRMINGHAM	28	1625	DETROIT METRO	1	620	OKLAHOMA CITY	49	1651	WEST INDIES		
BIRMINGHAM	28	1625	FLINT	2	493	TULSA	49	1768	SAN JUAN P.R.	549	4947
BIRMINGHAM	28	1625	FLINT RAPIDS	3	400	OREGON			WEST VIRGINIA		
BIRMINGHAM	28	1625	Houghton Lake	0	241	ASTORIA	0	29	BECKLEY	6	345
BIRMINGHAM	28	1625	LANSING	8	487	BURNS U	0	406	CHARLESTON	6	909
BIRMINGHAM	28	1625	MARQUETTE U	0	280	EUGENE	0	440	ELKINS	2	244
BIRMINGHAM	28	1625	MUSKEGON	1	179	MEACHAM	0	194	HUNTINGTON	8	984
BIRMINGHAM	28	1625	SAULT STE MARIE	0	186	MEDFORD	0	768	PARKERSBURG U	2	873
BIRMINGHAM	28	1625	MINNESOTA			PENDLETON	4	958	WISCONSIN		
BIRMINGHAM	28	1625	DULUTH	0	149	PORTLAND	0	449	GREEN BAY	323	
BIRMINGHAM	28	1625	INTERNATIONAL FALLS	0	259	SALT LAKE CITY	16	348	LA CROSSE	602	
BIRMINGHAM	28	1625	MINNEAPOLIS	1	619	PACIFIC AREA			MADISON	2	457
BIRMINGHAM	28	1625	ROCHESTER	1	487	GUAM TAGUAC R	445	4249	MILWAUKEE	1	344
BIRMINGHAM	28	1625	ST CLOUD	0	394	JOHNSTON	507	4428	WYOMING		
BIRMINGHAM	28	1625	MISSISSIPPI			KOROR R	131	5175	CASPER	406	
BIRMINGHAM	28	1625	JACKSON	57	1983	KWAJALEIN	523	1125	CHEYENNE	349	
BIRMINGHAM	28	1625	MEMPHIS	49	2215	MAJURO	445	4842	LANDER	467	
BIRMINGHAM	28	1625	MISSOURI			PAGO PAGO	497	4487	SHERIDAN	0	413
BIRMINGHAM	28	1625	COLUMBIA REGIONAL	13	953	PONAPE R	474	4756			
BIRMINGHAM	28	1625	KANSAS CITY	8	1159	TRUK MOEN ISLAND	513	5072			
BIRMINGHAM	28	1625	ST LOUIS	25	1173	YAP R	512	4277			
BIRMINGHAM	28	1625	SPRINGFIELD	15	1095	PENNSYLVANIA					
BIRMINGHAM	28	1625	MONTANA			ALLENTOWN	0	696			
BIRMINGHAM	28	1625	BILLINGS	2	572	ELIZABETH	0	326			
BIRMINGHAM	28	1625	GLASGOW	0	451	HARRISBURG	1	1160			
BIRMINGHAM	28	1625	GREAT FALLS	0	473	PHILADELPHIA	5	1153			
BIRMINGHAM	28	1625	HAVER	0	448	PITTSBURGH	1	653			
BIRMINGHAM	28	1625	HELINA	0	323	SCRANTON	0	447			
BIRMINGHAM	28	1625	KALISPELL	0	215	WILLIAMSPORT	564				
BIRMINGHAM	28	1625	MILES CITY	0	711	RHODE ISLAND					
BIRMINGHAM	28	1625	MISSOULA	0	447	BLOCK ISLAND	0	480			
BIRMINGHAM	28	1625				PROVIDENCE	0	447			

STORM SUMMARY

OCTOBER 1974

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				@HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				* ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	+ DAMAGE	DEATHS	INJURIES	+ DAMAGE		DEATHS	INJURIES	+ DAMAGE		DEATHS	INJURIES	+ DAMAGE		DEATHS	INJURIES	+ DAMAGE		DEATHS	INJURIES	+ DAMAGE					
								PROP. ERTY	CORPS			PROP. ERTY	CORPS			PROP. ERTY	CORPS			PROP. ERTY	CORPS								
Alabama	1	1		1	3																								
Alaska												4																	
Arizona	3	2																											
Arkansas	1	1										3					4												
California	2	2			3											5													
Colorado	*																												
Connecticut	*																												
Delaware	*																												
Florida																									6	4			
Georgia	*																												
Hawaii																								1	4	2			
Idaho	*																												
Illinois	*																									2			
Indiana	*																												
Iowa	*																												
Kansas								9	2			4														4			
Kentucky	*																												
Louisiana	9	2	2	84	7							5	9																
Maine	*																												
Maryland & D.C.												3																	
Massachusetts												4																	
Michigan																								1		4			
Minnesota														1	5														
Mississippi	2	1		1	3																								
Missouri												4																	
Montana	*																												
Nebraska	2	1			5											3													
Nevada	1	1																											
New Hampshire	*																												
New Jersey	*																												
New Mexico	1	1	1	8	5			3	4																				
New York																										5			
North Carolina																													
North Dakota	*																									7			
Ohio	*																												
Oklahoma	1	1			2						1	5																	
Oregon	*																												
Pacific	*																												
Pennsylvania																	1	3	4										
Puerto Rico																								7	1	3			
Rhode Island	*																												
South Carolina	*																												
South Dakota									4																				
Tennessee	*																												
Texas	22	3	1	19	7			4	4			5				4								1		7			
Utah	*																												
Vermont	*																												
Virginia																													
Virgin Islands	*																												
Washington	*																												
West Virginia	*																												

OCTOBER 1974

Herbert J. Thompson, Office of Hydrology

The most serious flooding during October occurred in the West Gulf of Mexico Drainage in Texas and in the Red River Basin in Oklahoma and Texas. A record crest was reported on the Sulphur River at Hagansport, Texas. Significant flooding also occurred in the Arkansas River Basin in Oklahoma and in Puerto Rico.

several states including Kansas, New Mexico, Arizona, California, and in the Virgin Islands.

Rainfall was much below normal in portions of Oregon and Washington with many streams at unusually low levels for the season.

Heavy rainfall occurred at isolated places in the central States with minor flooding on the Iowa River in Iowa, the Little Platte River in Missouri, and Lyons Creek in Kansas.

Hydrologic events of unusual significance or involving loss of life or property damage are discussed in more detail below.

Significant flash flood events were reported in

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
Neosho River Basin	ARKANSAS BASIN		
	Flash flooding occurred in northern Marion County on the 12th. Rains of 5 to 10 inches caused the flooding in the headwaters of the Cottonwood River and along Brook Luta northwest of Marion, Kansas. County road damage amounted to \$8,000. Most of the winter wheat crop in the flooded area required replanting.	0	N.A.
Arkansas River Tributaries in Oklahoma	Monthly rainfall totals were above normal over eastern Oklahoma, ranging up to the 10.40 inches recorded at Pryor. Ramona, Oswalt, and Burbank had more than 9 inches. Much of this rainfall occurred the last four days of the month with heaviest amounts generally on the 31st. Average rainfall over the area for this period was 3 inches with as much as 7.5 inches reported. Significant flooding occurred on Bird, Black Bear, and Polecats Creeks with minor flooding on the Little and Little Caney Rivers.	2	N.A.
	Flooding on these streams continued into November augmented by heavy rains the first days of that month. Damage will be included in the November report. Two flood-related deaths occurred when a van was swept off the road by flood waters.		
	RED BASIN		
Red River Tributaries in Oklahoma	Serious flooding occurred on the Blue River with moderate flooding along Clear Boggy Creek as a result of the heavy rainfall over east-central Oklahoma discussed above. The highest observed stage on the Blue River at Blue was nearly 11 feet over flood stage, while Clear Boggy Creek reached at least 4.6 feet over flood stage at Caney. This flooding continued into November.	0	N.A.
Sulphur River	Flooding continued on the lower Sulphur from September with a crest at Naples, Texas, nearly 3 feet over flood stage on the 2d. On the last two days of the month rains in excess of 4 inches fell over the headwaters of the Sulphur River with point	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS-Continued

OCTOBER 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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RED BASIN-Continued

amounts of nearly 9 inches in 24 hours reported. Record flooding occurred at Hagansport, Texas with a crest 6.2 feet over flood stage. This was 2.2 feet higher than the previous record stage of 48.0 feet which occurred April 26, 1966. More than 3,000 acres were inundated and cattle losses amounted to \$12,600.

WEST GULF OF MEXICO DRAINAGE

Sabine and Trinity River Basins (Texas)	During the first week of the month flooding continued from September along the Upper Sabine River at Min-eola, the East Fork of the Trinity River at Crandall, and the lower Trinity River at Moss Bluff. Several periods of significant rainfall occurred during the month culminating in heavy rains of 4 to 9 inches on the 30th and 31st over the headwaters of the Trinity and Sabine Rivers. Flooding began immediately along the Upper Sabine and the Trinity River and several of its tributaries which continued into November reaching serious proportions at some points.	0	N.A.
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San Jacinto River (Texas)	On the 30th-31st from 2 to 4 inches of rain fell over the headwaters of the San Jacinto River with resultant flooding along the East and West Forks of the stream above Lake Houston. Flooding also occurred along the main stem below Lake Houston early in November. There are no reporting gages along the stream.	0	N.A.
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Brazos and Colorado River Basins (Texas)	Heavy rains of 6 to 7 inches fell on the 30th-31st over the headwaters of the San Gabriel and Little Rivers in the Brazos River Basin. Flooding along the Upper San Gabriel down to Georgetown caused damage estimated at \$70,000, which was primarily agricultural. There are no reporting gages along this stream. Damage along the Little River amounted to \$50,000 with a crest stage nearly 11 feet over flood stage at the town of Little River. Heavy damage, amount unknown, occurred at Belton. Agricultural damage estimated at \$70,000 occurred along the Pedernales River on the 31st as a result of rains of 2 to 2.5 inches over the headwaters of the stream. The Pedernales is a tributary of the Colorado River.	0	N.A.
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Rio Grande Basin	Flooding continued from September on the Rio Grande around Presidio, Texas, with an additional crest occurring on Oct. 1 due to releases from Luis Leon Reservoir on the Rio Conchos River in Mexico. This rise also caused flooding at Boquillas, Texas, on the 2d-6th.	2	N.A.
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Heavy rains of up to 6 inches over the headwaters of the Devils River caused flooding on that stream on the 25th-26th. All highway traffic was blocked from Del Rio, Texas, north to Ozona and Sonora. Road damage was estimated at \$20,000.

There were a number of flash or urban flooding problems over New Mexico during the month although no

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS-Continued

OCTOBER 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
WEST GULF OF MEXICO DRAINAGE-Continued			
	<p> rivers went over flood stage. Among the communities affected were Albuquerque, Artesia, and Hobbs. Lea and Sierra Counties were particularly hard hit with some crop damage. Two people were drowned at a stream crossing in Espanola. </p>		
GULF OF CALIFORNIA DRAINAGE			
Lower Colorado River Basin	<p> Heavy rainfall on the 2d near Willow Beach, Arizona, below Lake Mead caused road damage in the area. </p> <p> At Winslow, Arizona, 2.09 inches fell in 35 minutes on the 8th causing severe urban flooding. </p>	0	N.A.
PACIFIC SLOPE DRAINAGE			
Santa Clara River Basin (California)	<p> Rainfall of high intensity occurred on the 7th on the northern slope of the San Gabriel Mountains. An amount of 1.5 inches in a short period was reported in Little Rock Canyon. Flash flooding with road damage occurred in the vicinity of Big Rock Creek. </p>	0	N.A.
Rogue River Basin	<p> Significant rainfall was reported at Medford, Oregon, on the 27th ending a period of 103 days without rain. This was the third longest such period in Medford's climatological history. </p>		
PUERTO RICO - VIRGIN ISLANDS			
La Plata River Basin	<p> Heavy rains early on the 23d averaged 6 inches in about 6 hours over the basin. A crest of 22.3 feet was reported at Proyecto La Plata in the upper part of the basin and a crest of 25.4 feet was reported at Toa Alta on the coastal plain where flooding occurred. </p>	0	N.A.
Manati River	<p> Heavy rains of 6 to 7 inches over the basin occurred early on the 24th. The U. S. Geological Survey reported a crest stage of 30.4 feet at their gage. They estimated the recurrence interval of this flood at 3 years. Flooding was on the coastal plain around the town of Manati. </p>	0	N.A.
Cibuco River	<p> Flooding occurred on the lower coastal plain on the 24th in response to rains of 4 to 5 inches over the basin. Crest stage at the USGS gage was 17.0 feet with an estimated recurrence interval of 4 years. </p>	0	N.A.
Fajardo River Basin	<p> Heavy flooding of sugarcane fields on the coastal plain around the town of Farjardo occurred on the 23d-24th. Rainfall amounts ranged from 5 inches over the lower basin to 11 inches in the headwaters. The crest stage of 16.2 feet on the 23d indicated a flood with a recurrence interval of 10 years. A second crest occurred on the 24th with stage unknown. </p>	0	N.A.
Canas and Portugese Rivers	<p> Rains averaging 4 to 5 inches over these river basins on the 31st caused flooding on the lower coastal plain around Ponce. </p>	0	N.A.
St. Thomas, Virgin Islands	<p> Rains averaging 5 to 6 inches over the island of St. Thomas on the 23d-24th caused urban flooding in the town of Charlotte Amalie. </p>	0	N.A.

FLOOD STAGE DATA

(All dates in October unless otherwise specified)

OCTOBER 1974

River and station	Flood stage	Above flood stages -dates		Crest	
		From	To	Stage	Date
<u>Upper Mississippi Basin</u>	<i>Ft</i>			<i>Ft</i>	
Iowa River:					
Marshalltown, Iowa	15	31	Nov 1	15.14	31
<u>Missouri Basin</u>					
Little Plate River:					
Smithville, Mo.	24	31	31	26.26	31
Lyons Creek:					
Woodbine, Kans.	17	12	1	#21.8	13
<u>Arkansas Basin</u>					
Black Bear Creek:					
Lawson, Okla.	17	30	Nov 6	#21.35 #26.84 Nov	30 4
Polecat Creek:					
Sapulpa, Okla.	21	31	0	26.90 Nov	3
Little Caney:					
Copan, Okla.	21	31	Nov 9	23.80 Nov	3
Bird Creek:					
Sperry, Okla.	21	28	Nov 7	31.45 Nov	4
Owasso, Okla.	23	28	Nov 7	37.77 Nov	4
Little:					
Tecumseh, Okla.	11	28 31	28 31	12.1 12.2	28 31
<u>Red River Basin</u>					
Blue:					
Blue, Okla.	21	31	Nov 3	#31.80	31
Clear Boggy Creek:					
Caney, Okla.	19	31	Nov 6	#23.29 23.63 Nov	31 4
Sulphur:					
Nagansport, Texas	4	31	Nov 5	50.2 Nov	1
Naples, Texas	22	Sept 17	5	A 24.85	2
<u>WEST GULF & MEXICO DRAINAGE</u>					
Sabine:					
Emory, Texas	12	31	1/	15.3 Nov	1
Mineola, Texas	14	0	5	14.96 Sept	28
East Fork Trinity:					
Crandall, Texas	13	Sept 18	5	16.56 Sept	22
Chambers Creek:					
Corsicana, Texas (Near)	20	31	Nov 7	26.1 Nov	1
Richland Creek:					
Richland, Texas (Near)	20	30	31	#26.9	31
Trinity:					
Dallas, Texas	30	31	Nov 6	35.1 Nov	1
Rosser, Texas	26	31	Nov 8	30.5 Nov	1
Trinidad, Texas	28	31	1/	38.4 Nov	25
Moss Bluff, Texas	4	Sept 14 24 30	6 16 1/	7.7d 4.0 8.1 Nov	22 24-25 17
Little:					
Little River, Texas (Near)	30	31	31	40.93	31
<u>Red River</u>					
Johnson City, Texas (Near)	25	31	31	25.0	31
Devils:					
Bakers Crossing, Texas	4	25	26	7.6	25
Rio Grande:					
Presidio, Texas	13	Sept 22	6	A 19.9	1
Boquillas, Texas	13	2	6	14.4	2

A See previous monthly report for additional crest information.

Average monthly values

Average monthly values

OCTOBER 1974

EL PASO, TX

1

Average monthly values

1942 : 474

Average monthly values

OCTUBER 1974

22

Average monthly values

26 JUL 1974

Average monthly value

OCTOBER 1974

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RAWINSONDE DATA

Average monthly values

21 APR 1974

WASHINGTON, D.C. 1974 MB										MAYCROSS, GA 1974 MB										KINNEB, COLO. 1974 MB										TAMPA, FL 1974 MB										SAN ANTONIO, TX 1974 MB									
1007 MB										883 MB										871 MB										854 MB										843 MB									
Standard pressure surface (mb)	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed	No of observations	Dynamic height	Temperature	Dew Point	Direction	Speed													
480 31	85	4.2	4.2	3.3	7.9	31	44	11.8	10.1	36	1.2	31	1.312	1.9	-4.7	24	5	31	1.487	8.3	3.9	10	8	31	1.6	1.6	5.5	3.9	12	8.4	31	1.6	1.6	5.5	3.9	12	8.4												
500 31	198	9.2	4.0	3.3	7.9	31	182	15.9	11.8	36	2.3	31	1.312	1.9	-4.7	24	5	31	1.487	8.3	3.9	10	8	31	1.6	1.6	5.5	3.9	12	8.4	31	1.6	1.6	5.5	3.9	12	8.4												
550 31	525	9.5	4.0	3.3	7.9	31	619	15.8	7.4	36	2.5	31	1.312	1.9	-4.7	24	5	31	1.487	8.3	3.9	10	8	31	1.6	1.6	5.5	3.9	12	8.4	31	1.6	1.6	5.5	3.9	12	8.4												
600 31	14072	7.3	-1.5	3.3	7.9	31	14077	13.3	3.3	36	2.3	31	1.312	1.9	-4.7	24	5	31	1.487	8.3	3.9	10	8	31	1.6	1.6	5.5	3.9	12	8.4	31	1.6	1.6	5.5	3.9	12	8.4												
650 31	14442	5.5	-4.7	2.5	7.9	31	14556	11.1	-1.5	36	7.3	31	1.516	9.6	-1.6	35	1.4	26	1.541	10.8	3.6	10	1.2	31	1.347	11.6	-2.9	1.6	10.3	31	1.347	11.6	-2.9	1.6	10.3	31	1.347	11.6	-2.9	1.6	10.3								
700 31	24555	3.1	-7.3	2.9	7.9	31	24060	9.0	-6.2	36	1.5	31	2.019	8.7	-6.8	34	1.4	26	2.034	11.2	2.6	10	2.9	31	1.829	-6.1	-6.6	1.6	10.4	31	1.829	-6.1	-6.6	1.6	10.4	31	1.829	-6.1	-6.6	1.6	10.4								
750 31	24556	1.5	-10.6	2.8	7.9	31	24593	7.1	-10.0	35	2.4	31	2.550	5.1	-6.8	27	1.4	31	2.571	7.8	-4.4	21	5.1	31	2.335	-7.1	-9.7	1.6	10.3	31	2.335	-7.1	-9.7	1.6	10.3	31	2.335	-7.1	-9.7	1.6	10.3								
800 31	34594	-1.9	-14.7	2.8	7.9	31	34157	4.4	-13.7	33	2.8	31	3.109	1.3	-9.7	27	2.4	31	3.136	4.0	-4.5	21	5.1	31	2.870	-10.5	-10.6	1.6	10.2	31	2.870	-10.5	-10.6	1.6	10.2	31	2.870	-10.5	-10.6	1.6	10.2								
850 31	34594	-6.5	-17.3	2.8	7.9	31	34757	1.6	-15.5	31	4.1	31	3.702	-2.3	-12.6	26	2.5	31	3.734	-6.3	-7.0	22	5.1	31	3.437	-12.1	-12.2	1.6	10.7	31	3.437	-12.1	-12.2	1.6	10.7	31	3.437	-12.1	-12.2	1.6	10.7								
900 31	44320	-8.2	-17.6	2.8	7.9	31	44398	-1.6	-19.3	35	5.3	31	4.333	-6.4	-17.3	28	2.1	31	4.377	-4.1	-14.2	22	5.2	31	4.040	-17.3	-23.6	1.6	11.8	31	4.040	-17.3	-23.6	1.6	11.8	31	4.040	-17.3	-23.6	1.6	11.8								
950 31	44991	-11.9	-19.1	2.9	13.4	31	54085	-6.3	-23.5	30	5.7	31	5.008	-10.4	-22.7	25	3.3	31	5.052	-8.1	-20.9	18	5.2	31	4.085	-21.3	-27.6	1.6	13.4	31	4.085	-21.3	-27.6	1.6	13.4	31	4.085	-21.3	-27.6	1.6	13.4								
50 31	5715	-16.3	-30.9	2.9	14.5	31	5823	-11.3	-29.2	29	6.8	31	5.735	-15.2	-28.0	28	4.4	31	5.794	-13.0	-26.3	23	5.5	31	5.379	-28.3	-32.4	1.6	14.9	31	5.379	-28.3	-32.4	1.6	14.9	31	5.379	-28.3	-32.4	1.6	14.9								
450 31	64512	-21.1	-34.1	2.9	15.4	31	64621	-14.9	-33.8	29	8.5	31	6.522	-21.2	-33.0	29	4.4	31	6.581	-18.6	-32.7	24	6.9	31	6.131	-31.8	-37.1	1.6	16.9	31	6.131	-31.8	-37.1	1.6	16.9	31	6.131	-31.8	-37.1	1.6	16.9								
400 31	74371	-27.0	-34.9	2.9	15.4	31	74495	-23.6	-39.2	29	10.6	31	7.380	-28.0	-39.6	29	4.4	31	7.448	-25.2	-37.5	24	9.4	31	6.954	-37.8	-44.3	1.6	19.4	31	6.954	-37.8	-44.3	1.6	19.4	31	6.954	-37.8	-44.3	1.6	19.4								
350 31	84320	-34.9	-45.2	2.9	16.3	31	84460	-30.7	-45.4	25	13.5	31	8.327	-35.2	-45.4	31	4.4	31	8.427	-32.3	-43.4	24	10.7	31	7.865	-43.7	-44.3	1.6	21.4	31	7.865	-43.7	-44.3	1.6	21.4	31	7.865	-43.7	-44.3	1.6	21.4								
300 31	94374	-43.3	-49.1	2.9	16.3	31	94536	-38.9	-51.2	28	16.3	31	9.384	-43.5	-51.1	31	5.2	31	9.473	-40.6	-51.1	24	13.9	31	8.886	-46.9	-48.3	1.6	25.1	31	8.886	-46.9	-48.3	1.6	25.1	31	8.886	-46.9	-48.3	1.6	25.1								
250 31	104578	-41.7	-49.1	2.9	16.3	31	104756	-48.2	-51.2	28	19.5	31	10.583	-51.9	-51.9	31	5.9	31	10.693	-48.6	-51.1	24	11.7	31	10.073	-52.2	-52.2	1.6	28.0	31	10.073	-52.2	-52.2	1.6	28.0	31	10.073	-52.2	-52.2	1.6	28.0								
200 31	124001	-48.4	-50.4	2.9	16.3	31	124195	-57.1	-57.1	29	23.3	31	12.010	-57.1	-57.1	28	8.5	31	12.135	-56.1	-56.1	20	20.6	31	11.514	-54.3	-54.3	1.6	21.4	31	11.514	-54.3	-54.3	1.6	21.4	31	11.514	-54.3	-54.3	1.6	21.4								
175 31	124837	-50.4	-50.4	2.9	16.3	31	130034	-60.6	-58.1	28	23.9	31	12.854	-58.1	-58.1	29	8.1	31	12.978	-59.1	-59.1	20	19.5	31	12.830	-51.7	-51.7	1.6	17.0	31	12.830	-51.7	-51.7	1.6	17.0	31	12.830	-51.7	-51.7	1.6	17.0								
150 31	134796	-61.4	-58.1	2.9	16.3	31	134986	-63.8	-60.1	28	21.6	31	13.820	-60.1	-60.1	28	8.1	31	13.937	-62.4	-62.4	20	16.3	31	13.379	-52.1	-52.1	1.6	16.8	31	13.379	-52.1	-52.1	1.6	16.8	31	13.379	-52.1	-52.1	1.6	16.8								
125 31	144933	-63.2	-58.1	2.9	16.3	31	145095	-66.9	-62.6	28	17.9	31	14.951	-62.6	-62.6	29	7.5	31	15.055	-65.0	-65.0	20	14.0	31	14.560	-52.7	-52.7	1.6	16.4	31	14.560	-52.7	-52.7	1.6	16.4	31	14.560	-52.7	-52.7	1.6	16.4								
100 31	154301	-63.7	-58.1	2.9	16.3	31	154435	-68.5	-64.1	28	12.4	31	15.322	-64.1	-64.1	29	5.9	31	15.404	-67.3	-67.3	27	7.2	31	15.002	-52.1	-52.1	1.6	12.3	31	15.002	-52.1	-52.1	1.6	12.3	31	15.002	-52.1	-52.1	1.6	12.3								
80 31	164732	-62.8	-58.1	2.9	16.3	31	164775	-65.8	-64.1	29	7.1	31	16.888	-64.1	-64.1	29	4.3	31	16.950	-66.7	-66.7	27	5.4	31	16.442	-53.6	-53.6	1.6	11.7	31	16.442	-53.6	-53.6	1.6	11.7	31	16.442	-53.6	-53.6	1.6	11.7								
70 31	184438	-61.0	-58.1	2.9	16.3	31	184498	-63.9	-61.0	27	4.4	31	18.507	-63.3	-63.3	31	4.1	31	18.581	-65.0	-65.0	28	3.3	31	18.301	-53.6	-53.6	1.6	9.9	31	18.301	-53.6	-53.6	1.6	9.9	31	18.301	-53.6	-53.6	1.6	9.9								
60 31	194459	-49.5	-58.1	2.9	16.3	31	194541	-60.9	-58.1	27	3.0	31	19.457	-62.5	-62.5	31	1.1	29	19.505	-63.0	-63.0	28	2.9	31	19.291	-54.1	-54.1	1.6	8.0	31	19.291	-54.1	-54.1	1.6	8.0	31	19.291	-54.1	-54.1	1.6	8.0								
50 31	204605	-58.0	-58.1	2.9	16.3	31	204683	-58.1	-58.1	28	8.2	31	20.445	-61.2	-61.2	31	2.3	31	20.638	-60.5	-60.5	27	2.6	31	20.459	-54.8	-54.8	1.6	7.1	31	20.459	-54.8	-54.8	1.6	7.1	31	20.459	-54.8	-54.8	1.6	7.1								
40 31	214844	-46.5	-58.1	2.9	16.3	31	214906	-58.2	-58.2	14	8.8	31	21.475	-59.9	-59.9	31	1.1	28	21.534	-58.8	-58.8	27	2.0	31	21.888	-54.9	-54.9	1.6	5.6	31	21.888	-54.9	-54.9	1.6	5.6	31	21.888	-54.9	-54.9	1.6	5.6								
30 31	234847	-44.8	-58.1	2.9	16.3	31	234938	-53.5	-53.5	11	9.2	31	23.788	-57.0	-57.0	31	1.0	21	23.855	-54.1	-54.1	28	3.1	31	23.708	-54.6	-54.6	1.6	5.2	31	23.708	-54.6	-54.6	1.6	5.2	31	23.708	-54.6	-54.6	1.6	5.2								
20 31	254926	-43.5	-58.1	2.9	16.3	31	254977	-51.8	-51.8	9	8.1	31	24.944	-55.6	-55.6	31	4.9	31	25.018	-54.3	-54.3	27	4.8	31	24.894	-54.3	-54.3	1.6	3.9	31	24.894	-54.3	-54.3	1.6	3.9	31	24.894	-54.3	-54.3	1.6	3.9								
10 31	264978	-42.5	-58.1	2.9	16.3	31	264977	-47.6	-47.6	10	9.2	31	26.494	-54.1	-54.1	29	5.4	31	26.581	-53.1	-53.1	28	6.8	31	26.376	-54.1	-54.1	1.6	4.4	31	26.376	-54.1	-54.1	1.6															

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NET RADIATION

Net radiation in langbeys per day (8 a.m. to 8 a.m.) at Palmer, Alaska.

OCTOBER 1974

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.	
Langbeys	11	11	19	37	15	18	10	38	37	10	6	24	8	2	13	17	10	9	32	3	1	7	21	21	29	36	17	42	33	48	21	16	4

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average (6 390 Å) at base, base

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langbeys																																

NO DATA RECEIVED

TOTAL OZONE DATA

Provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code . S U Z Z

Station: Walla Walla, WA

Day of month

Station	Day of month																																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean Oz	

NO DATA RECEIVED

REFERENCE NOTES

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES: Dates in the table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

- + And also on an earlier date or dates.
- D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch of water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA - METRIC UNITS: Data from airport unless otherwise specified.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

- B Number of days maximum 21.1°C. or above for Alaskan Stations.
- Y Peak Gust.
- + And also on an earlier date or dates.
- U Indicates Urban site.
- R Indicates Rural site.
- Ø Station pressures apply to elevations shown in the "Elevations" table of the annual issue of this publication.

Conversion formulae to English Units are as follows:

1 foot = 0.3048 meters
 F. = $9 \times C + 32$
 5
 1 inch = 25.4 millimeters
 1 mile per hour = 0.447 meters per second

HEATING DEGREE DAYS: Data from airport unless otherwise specified.

- U Indicates Urban site.
- R Indicates Rural site.

COOLING DEGREE DAYS: Data from airport unless otherwise specified.

- U Indicates Urban site.
- R Indicates Rural site.

STORM SUMMARY:

- ° Includes crop damage.
- C Crop damage.
- * No occurrence of storms or unusual weather phenomena reported.
- @ Includes heavy sleet storm.
- # Freezing drizzle and freezing rain, commonly known as glaze.
- Ø For breakdown of "All Others," and for detailed listing of other storms, see the Environmental Data Service, NOAA, monthly publication STORM DATA.
- † No Storm Data Report received for this State.
- <> Report Incomplete.
- † Storm damages are placed in categories varying from 1 to 9 as follows:
 - 1 Less than \$50
 - 2 \$50 to \$500
 - 3 \$500 to \$5,000
 - 4 \$5,000 to \$50,000
 - 5 \$50,000 to \$500,000
 - 6 \$500,000 to \$5 Million
 - 7 \$5 Million to \$50 Million
 - 8 \$50 Million to \$500 Million
 - 9 \$500 Million to \$5 Billion.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS:

- 1/ Flooding continued at the end of the month.
- NA Not available.

FLOOD STAGE DATA:

- # Highest Stage Observed
- 1/ Continued at end of month
- Highest Stage of Record
- E Estimated
- P Provisional (Flood Stage)
- U Unknown

RAWINSONDE DATA (Average Monthly Values):

All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygrometers. These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

- * Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.
- + Observations for these stations are scheduled at 0000 G.C.T.
- † Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

REFERENCE NOTES - (continued)

SOLAR RADIATION INTENSITIES: Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

()	Clouds Present	DM	Moderate Dust	HM	Moderate Haze	KS	Slight Smoke
*	Values corresponding to true solar noon	DS	Slight Dust	HS	Slight Haze	M	Moderate Haze-indeter-
BD	Blowing Dust	F	Fog	I	Intense Haze-indeterminable		minable
BN	Blowing Sand	GF	Ground Fog	K	Smoke	N	Sand
D	Dust	H	Haze	KL	Intense Smoke	S	Slight Haze-indeter-
DI	Intense Dust	HI	Intense Haze	KM	Moderate Smoke		minable

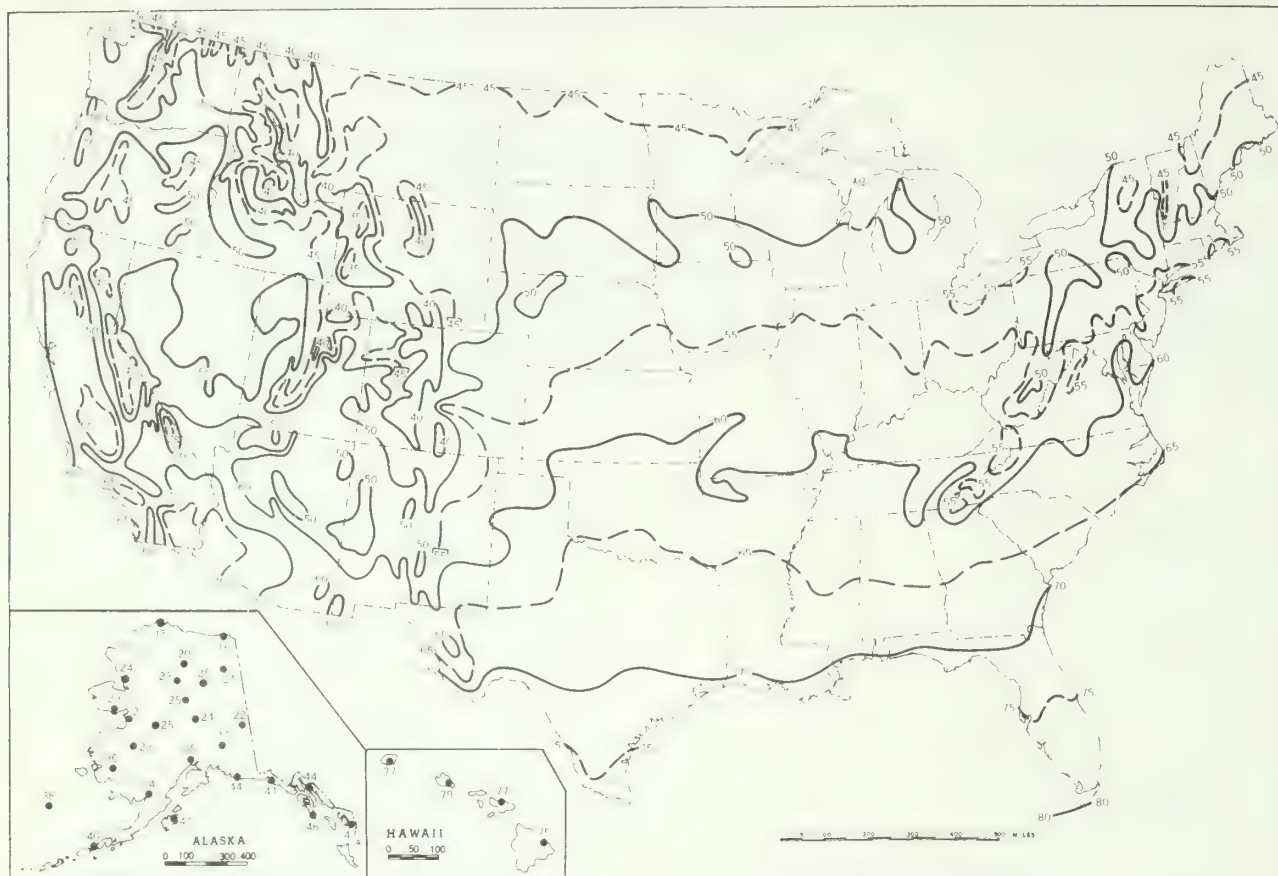
NET RADIATION: The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the NOAA, National Weather Service.

SOLAR ULTRA-VIOLET RADIATION DATA: These data are from an U-V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. This instrument has not been checked by the NOAA, National Weather Service.

TOTAL OZONE DATA: The spectrophotometer measures the total amount of ozone in the atmosphere, i.e., the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded $\rho \rho \rho$) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e.g., 350 milli-atmo-cm ozone implies an ozone layer 0.350 centimeter thick. The code λg designates the type of measurement made.

Chart 1. A. Normal Daily Average Temperature (°F. 1941-70), October.



B. Temperature Departure from 30 - Year Mean (°F. 1941-70), October 1974

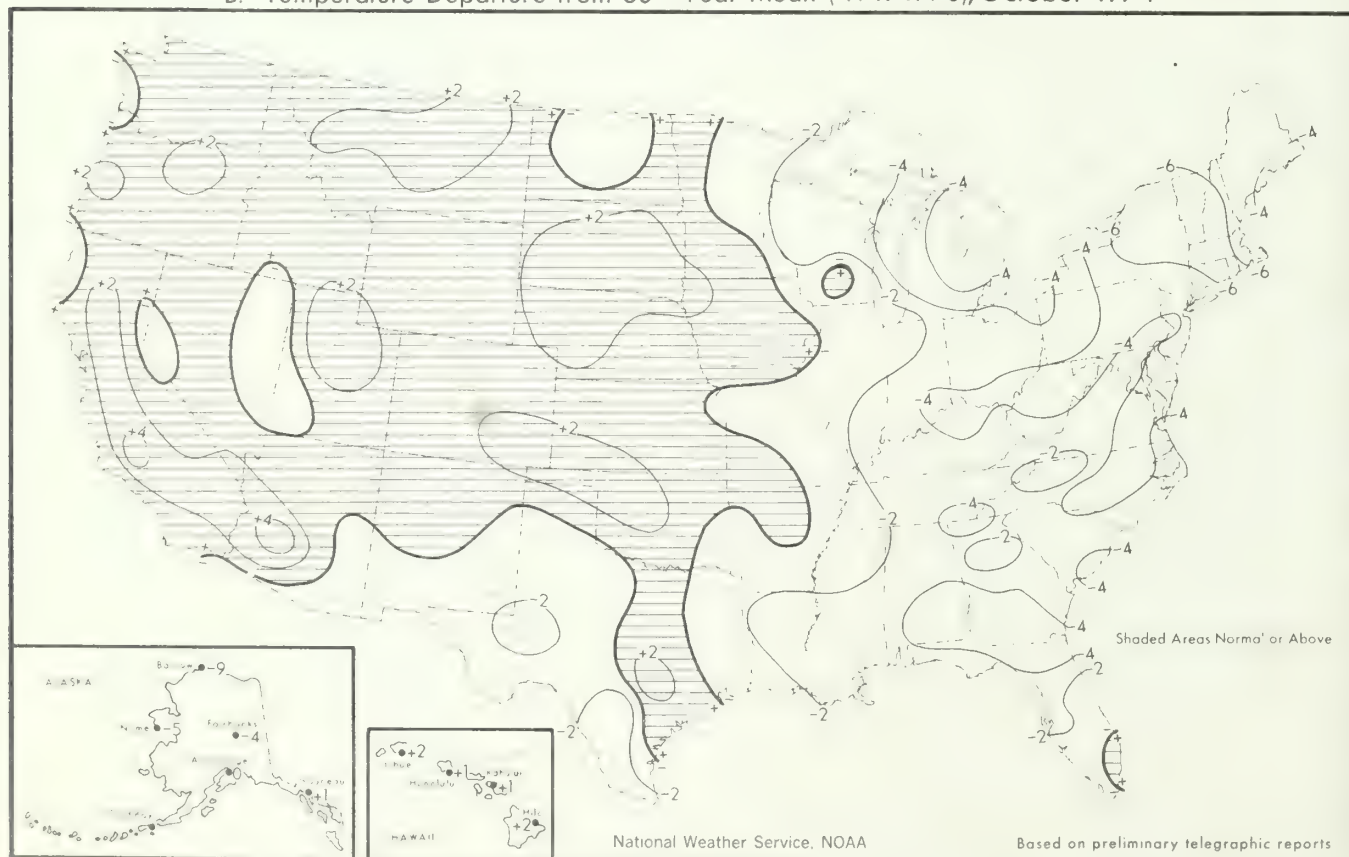
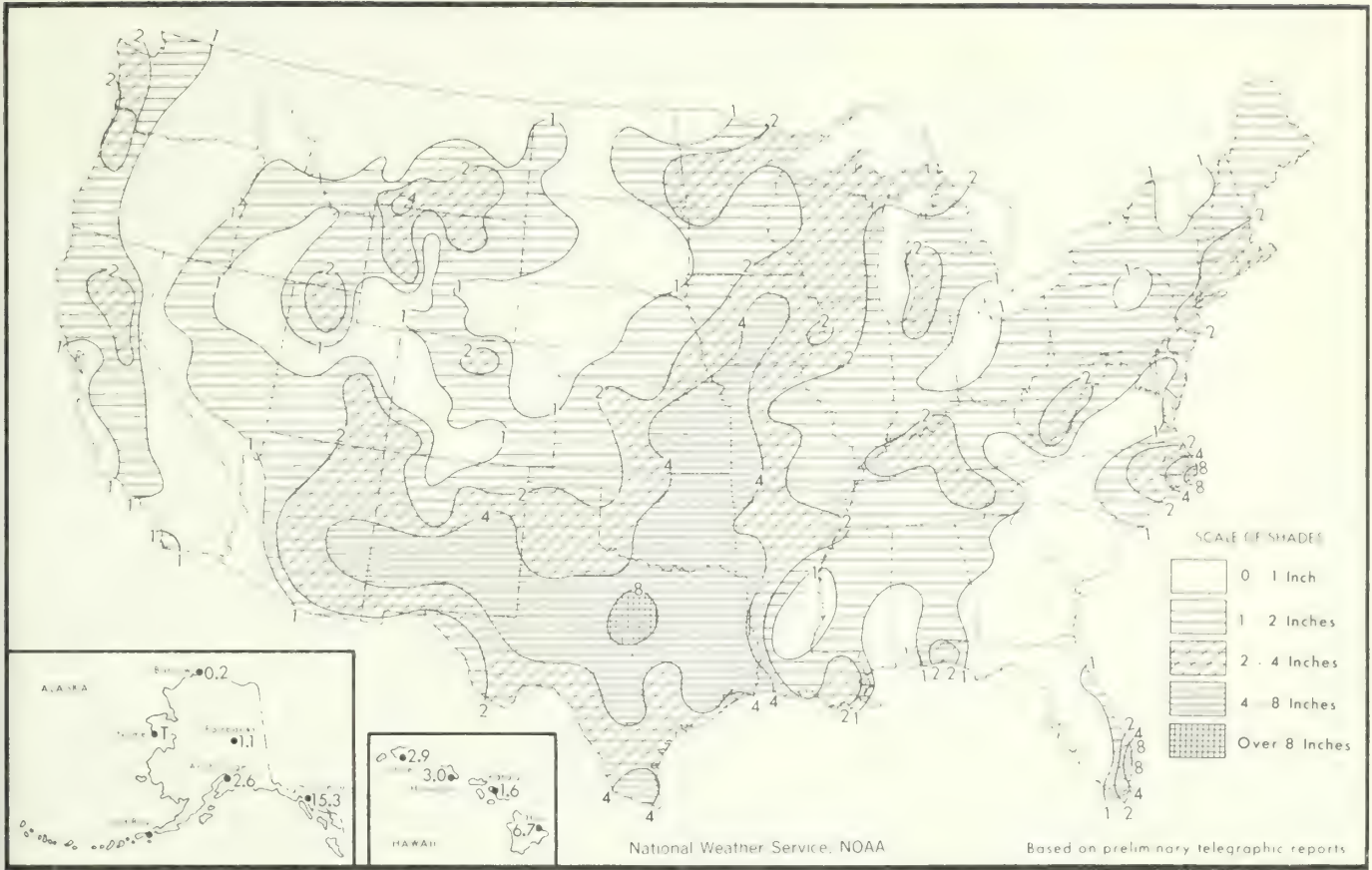


Chart II. A. Total Precipitation (Inches), October 1974



B. Percentage of Normal Precipitation, October 1974

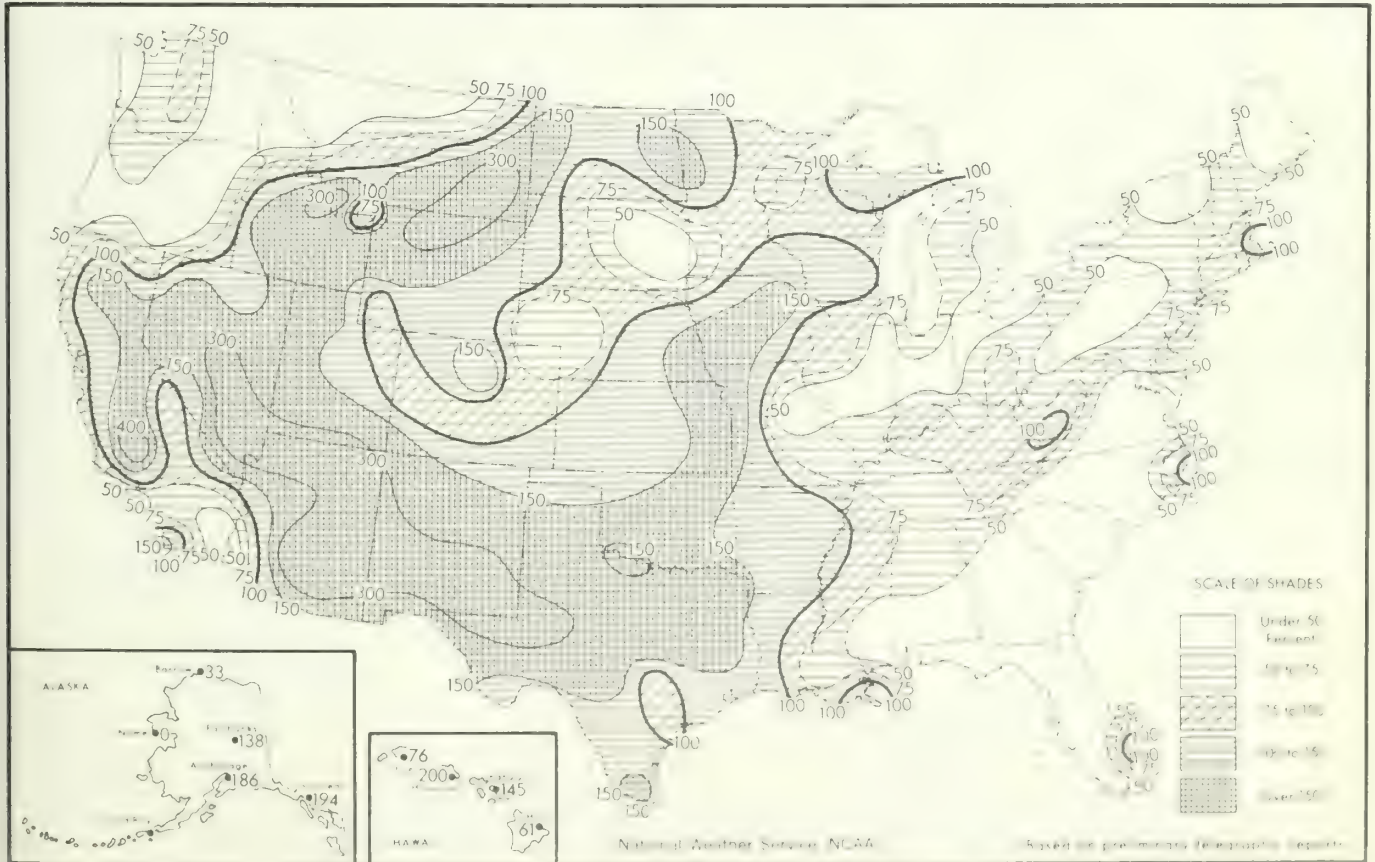
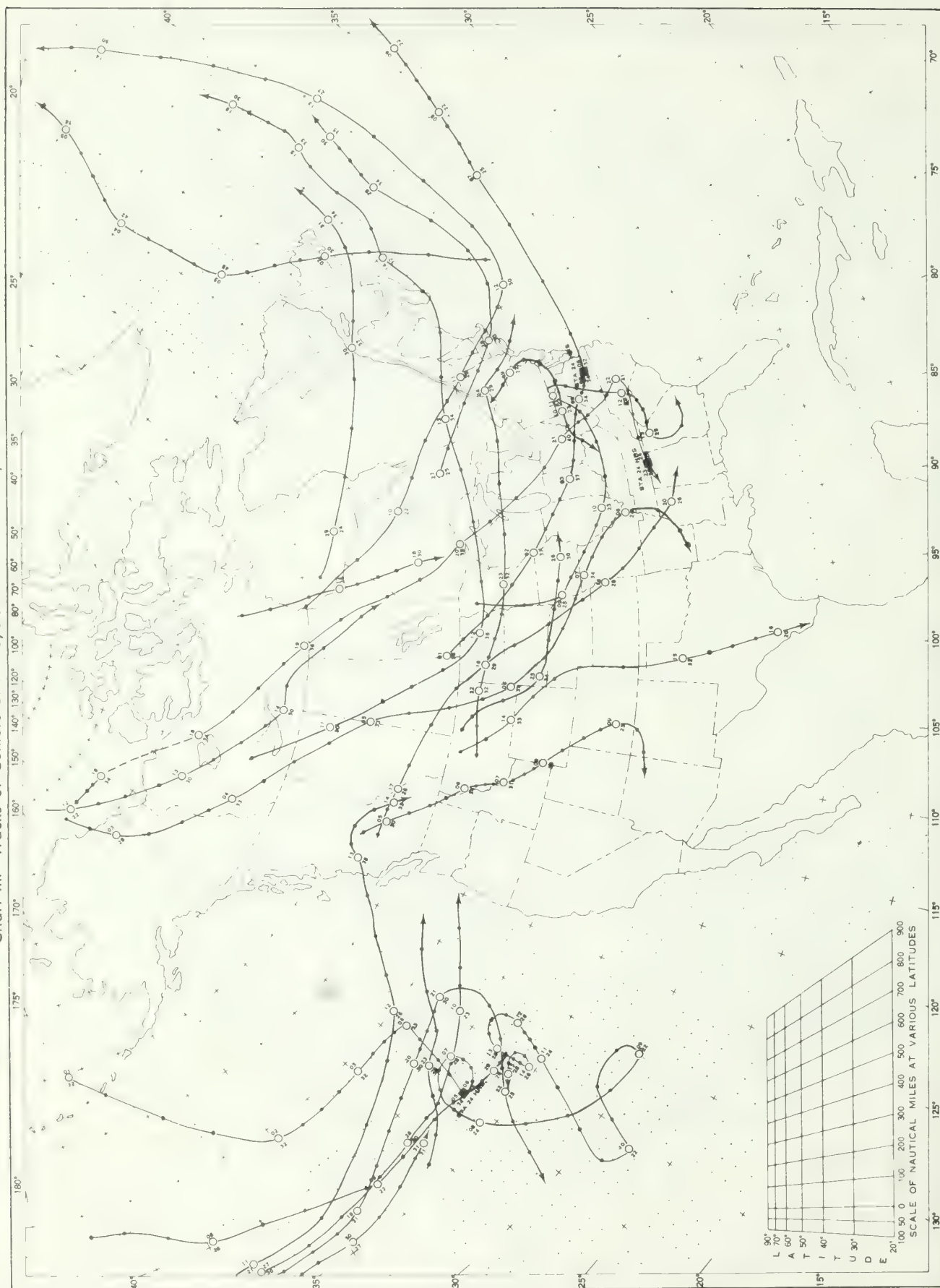
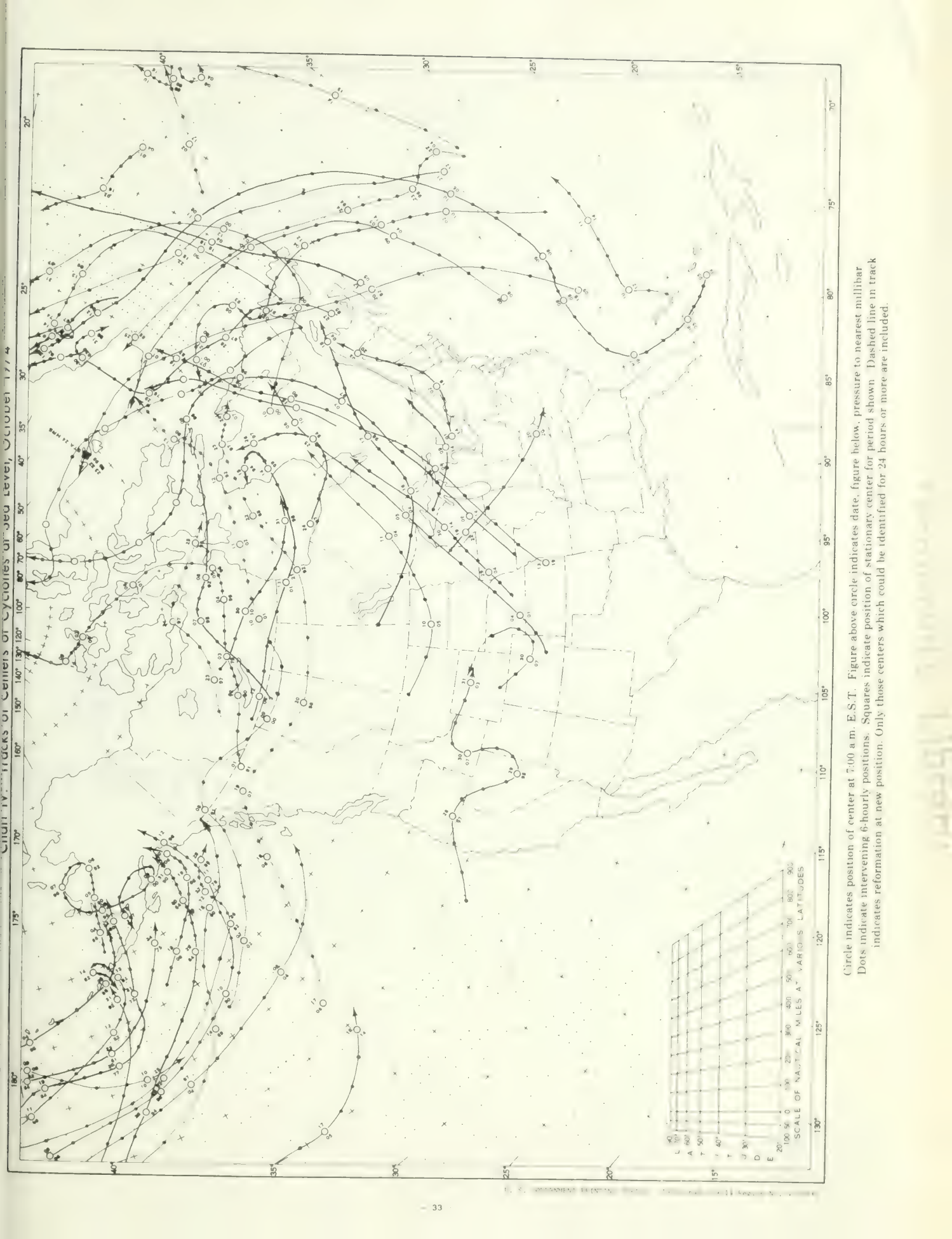


Chart III. Tracks of Centers of Anticyclones at Sea Level, October 1974



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below pressure to nearest millibar.
Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Environmental Data Service



EMBER

1974

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No. 11

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NOTE: Late reports and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

SUBSCRIPTION PRICE: \$8.85 a year including annual summary; \$7.75 additional for foreign mailing; 60¢ single copy; \$1.65 annual summary. Make checks payable to Department of Commerce, NOAA; send payments and orders to: National Climatic Center, Federal Building, Asheville, N. C. 28801. Attn: Publications.

I certify that this is an official publication of the National Oceanic and Atmospheric Administration and is compiled from records on file at the National Climatic Center, Asheville, North Carolina 28801.

William H. Haggard
Director, National Climatic Center

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

NOVEMBER 1974

GENERAL SUMMARY OF WEATHER CONDITIONS

Dr. Richard E. Felch, Climatologist

LIGHTS: Temperatures over most of the Nation slightly above the normal. The greatest departures occurred in Montana and Washington where temperatures averaged 3° to 4° above normal.

Precipitation was very light over the western half of the Nation except along the northern California, Oregon, and Washington Coast where the heavy, but normal, winter rains dropped from 2 to over 12 inches.

Record-breaking rainfall fell in parts of Texas and Oklahoma, and was at least 150% of normal in the 4 adjoining States. Tulsa, Okla., received 7.30 inches of moisture, which is 406% of normal; Austin, Texas, 4.37 inches, 370% of normal. Rainfall was near or above normal over the remainder of the East except the Central Atlantic Coast States and the New England Coast, which were very dry.

PRECIPITATION: Moderate to heavy rains fell over a large area from Texas to the Great Lakes and eastward into New England during the first 10 days. Most heavy rains occurred early and late in the period as cold fronts passed through the area.

The season's first major snowstorm blanketed much of the Northern Great Plains, the Corn Belt and the Great Lakes area on the 12th and 13th. Five inches of snow covered the ground at Moline, Ill., and 4 inches whitened the landscape at Peru, Ind., on the 14th. As much as 2 feet fell over the northern Great Lakes.

Heavy rains fell in the Deep South during the week ending on the 24th. Over 2 inches drenched a wide area from Texas curving up through Arkansas, across Tennessee and into South Carolina. Austin, Texas,

received at least 5 inches. Flash flooding in central Texas took several lives.

New England's first severe snow storm struck on the 20th and 21st leaving a foot of snow in northern areas and 5 inches in southern areas.

Wintery snow storms and icy rains fell across the Nation's eastern half during the last week of the month. Snow blanketed New England early in the week and Ohio, Pennsylvania, and the Virginia mountains later in the week.

TEMPERATURE: While temperatures averaged near normal over the month, conditions were highly variable.

The month began with below normal temperatures dominating the southcentral and southwest parts of the country. Record warmth touched parts of the Northeast. Record highs were set on the 4th at Norfolk, Va., 84°; Atlantic City, N.J., 80°; Baltimore, Md., 82°; Richmond, Va., 84°.

During the week ending on the 17th temperatures were well below normal over the eastern half of the Nation as freezing temperatures reached almost to the Gulf Coast.

Most of the Nation received unusually warm temperatures during the week ending the 24th. Much of the Nation's midsection averaged 6 to 9° above normal.

The month ended on a cold note with temperatures well below normal.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

NOVEMBER 1974

STATE	Temperature						Precipitation					
	Monthly extremes						Monthly extremes					
	Station	Highest °F	Date	Station	Lowest °F	Date	Station	Greatest In.	Station	Least In.		
Alabama	Coden	89	2	Waterloo	15	26	Jackson	7.05	Newton	1.59		
Alaska	Nome FAA AP	60	2	2 Stations	-59	26	Little Port Walter	43.09	Barter Island WSO AP	.09		
Arizona	2 Stations	88	13	Sunrise Mountain	2	4	Payson R S 2	2.24	17 Stations	.00		
Arkansas	Hector	85	3	Gilbert	16	15	Amity 3 N	17.19	Eudora	3.65		
California	Canoga Park Pierce College	98	13	Bodie	-2	23	Gibson Hwy Mntnce Station	8.72	34 Stations	.00		
Colorado	Wray	81	21	Kremmling	-29	29	Bonham Reservoir	3.35	Great Sand Dunes NM	.05		
Connecticut	Hartford WSO AP	81	1	2 Stations	12	28	Norfolk 2 SW	3.90	Bridgeport WSO AP	1.26		
Delaware	Milford 2 WSW	85	1	Milford 2 WSW	15	27	Middletown 1 WSW	1.63	Bridgeville 1 NW	.76		
Florida	Panama City 5 NE	91	3	Fountain 3 SSE	23	26	De Funiak Springs	5.51	Flamingo Ranger Station	.06		
Georgia	Dublin 3 S	89	4	Elberton 2 N	16	27	Home	5.98	Blackbeard Island	.51		
Hawaii	2 Stations	89	11	2 Stations	28	17	Waiahi Upper 1052, Kauai	25.44	Middle Pen 147.1	.00		
Idaho	Parma Experiment Station	69	22	Kilgore	-2	29	Sandpoint Exp. Station	7.91	Leadore 2	T		
Illinois	2 Stations	81	1	Wheatland 3 SE	13	26	Dixon Springs Agr C	6.12	Freeport Waste Wtr Plt	1.63		
Indiana	2 Stations	82	1	Prairie Heights	12	27	Princeton 1 W	6.94	Nobleville	1.66		
Iowa	3 Stations	73	1	Sanborn	9	28	Keokuk Lock and Dam 19	3.91	Onawa	.19		
Kansas	Saint Francis	79	21	McDonald	2	30	Thayer	8.66	Johnson 11 ESE	.07		
Kentucky	Jackson	85	1	Ashland	12	27	Williamsburg	6.89	Vanceburg	1.33		
Louisiana	Grand Coteau	89	2	Ashland 2 S	24	15	Woodworth State Forest	8.90	Boothville WSO	3.16		
Maine	Gardiner	77	1	Fort Kent	-7	23	Patton 4 WSW	6.40	Corinna	2.22		
Maryland	Elkton	89	4	Oakland 1 SE	2	27	McHenry 2 NW	2.85	Snow Hill 4 N	.70		
Massachusetts	Chester 2	81	1	Chester 2	4	23	Cumington Hill	4.58	Edgartown	1.43		
Michigan	2 Stations	71	1	2 Stations	-3	29	Bergland Dam	5.59	Mio Hydro Plant	.85		
Minnesota	2 Stations	68	2	Tower 3 S	-11	30	Aitkin	3.14	Dawson	.11		
Mississippi	2 Stations	89	2	Tupelo 2 WNW	19	28	State Line	9.29	Coffeeville	2.71		
Missouri	3 Stations	80	1	2 Stations	14	26	Dzark Beach	8.26	Maryville 2 E	1.04		
Montana	Wyola	71	21	Cooke City	-12	29	Troy 18 N	7.83	Judith Gap	.00		
Nebraska	2 Stations	77	22	2 Stations	-10	30	Haigler	1.80	2 Stations	.00		
Nevada	Lathrop Wells 16 SSE	83	9	Reese Valley-Smith	1	29	Virginia City	1.34	4 Stations	.00		
New Hampshire	Concord WSO AP	78	1	Mount Washington	-7	27	Mount Washington	11.45	Marlow	2.90		
New Jersey	Tuckerton	85	1	2 Stations	13	30	High Point Park	2.58	Sandy Hook	.61		
New Mexico	Carlsbad	81	14	Eagle Nest	-14	30	Brazos Lodge	1.23	10 Stations	.00		
New York	New York Laurel Hill	82	1	Old Forge	-1	30	Hooker 4 N	7.08	N Y Central Park WSO CI	.94		
North Carolina	2 Stations	89	3	Grandfather Mountain	10	15	Waterville 2	5.71	Manteo 2 WNW	.93		
North Dakota	Bowman Court House	66	22	4 Stations	-10	29	Carrington 4 N	2.36	Amidon	.00		
Ohio	Dayton	82	1	Mansfield 6 S	8	26	Chardon	7.09	London Water Works	1.68		
Oklahoma	Hollis	85	22	Goodwell Research Station	4	30	Carnasaw Tower	9.41	Goodwell Research Station	.10		
Oregon	2 Stations	74	21	2 Stations	5	30	Valsetz	22.42	Drewsey	.04		
Pennsylvania	2 Stations	83	1	Bradford 4 W Res	4	27	North East 2 SE	6.53	Philadelphia WSFO	.72		
Puerto Rico	2 Stations	92	28	Cerro Maravilla	56	19	Pico Del Este	27.04	Rio Grande El Verde	2.23		
Rhode Island	Providence WSO AP	78	1	Kingston	15	23	North Foster 1 E	2.33	Block Island WSO AP	1.36		
South Carolina	Darlington	90	2	2 Stations	17	27	Ninety Nine Islands	5.30	Hilton Head	.94		
South Dakota	2 Stations	74	22	Deerfield 4 NW	-15	29	Milbank	1.73	8 Stations	.1		
Tennessee	Knoxville 1 of Tenn	85	4	3 Stations	12	28	Ashwood	7.28	Union City	2.67		
Texas	4 Stations	91	20	Stratford	6	30	Buffalo	17.25	3 Stations	.00		
Utah	3 Stations	71	22	2 Stations	-1	29	Silver Lake Brighton	2.91	Vernal Airport	T		
Vermont	Vernon	78	2	2 Stations	0	28	Mount Mansfield	7.52	South Londonderry	2.98		
Virginia	Chase City	89	3	Monterey	6	27	Abingdon 3 S	3.65	2 Stations	.65		
Virgin Islands	4 Stations	88	30	Alex Hamilton Field FAA	62	13	Christiansted Fort	21.32	Cruz Bay	9.57		
Washington	3 Stations	71	22	Chester 4 WNW	11	28	Cougar 6 E	20.51	2 Stations	.30		
West Virginia	Martinsburg FAA AP	86	1	Canaan Valley	2	27	Pickens 1	4.72	Renick 2	.51		
Wisconsin	2 Stations	76	1	Mellen 4 NE	0	30	Gurney	4.30	Eau Claire FAA AP	.68		
Wyoming	3 Stations	72	25	2 Stations	-15	29	Burgess Junction	1.86	5 Stations	T		

CLIMATOLOGICAL DATA

METRIC UNITS

NOVEMBER 1974

State and Station	Elevation (ground)	Pressure		Temperature				Precipitation				Wind				No of days (sunrise to sunset)		Possible sunshine (sunrise to sunset)												
		Station	Sea level	Average		Departure from normal	Highest	Date	Lowest	Date	No of days		Average relative humidity	Total	Departure from normal	Greatest in 24 hours	25 mm or more		No of days	Snow, ice pellets	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover (tenths)
				Average maximum	Average minimum						Max 32° or above	Min 0° or lower																		
				C	C	C	C	C	C	C	C	C	C	C	C	C	C		C	C	C	C	C	C	C	C	C	C	C	C
ALABAMA																														
ANNISTON	185	994.0	1020.6	18.0	4.9	11.5	28.3	1	-3.3	15	0	9	6.6	105	10	33	11	2	0	213	127	1.2	2	9.4	29	17.0	5	12	5.4	5.4
BARBIC	190	997.0	1020.5	17.5	4.2	10.8	28.3	2	-5.0	20	0	10	5.4	133	35	60	11	2	20	25	0.4	26	11.2	27	30.4	5	13	5.4	5.4	
MOBILE	64	1012.2	1020.1	18.3	9.8	15.1	28.3	1	-1.1	15	0	0	10.6	99	13	36	11	4	0	0	0.6	30	10.3	30	20	9	11	5.2	5.2	
MONROVIA	56	1013.5	1020.8	19.4	5.9	12.7	28.3	1	-1.7	27	0	0	6.6	101	4	30	6	2	0	0	0.7	32	13.4	30	20	14	5	11	4.2	4.2
ALASKA																														
ANCHORAGE	36	994.9	998.8	-2.2	-8.2	-5.2	6.1	1	-22.2	18	8	28	-7.8	82	0	7	12	0	127	127	1.2	2	9.4	17	12	1	9	23	8.4	8.4
BARBER	34	1004.9	1010.1	5.9	1.8	3.8	11.7	3	-3.3	20	0	11	1.7	86	408	81	74	23	2	117	3.6	14	16.5	16	13	2	2	26	8.8	8.8
BEAR	10	1011.8	1011.4	-19.2	-24.8	-24.2	-3.9	12	-33.3	28	0	30	-26.1	70	4	1	4	0	127	0.4	4	18.3	4	18.3	11	11				
BARTON	10	1011.8	1011.4	-19.2	-24.8	-24.2	-3.9	12	-33.3	28	0	30	-26.1	70	4	1	4	0	127	0.4	4	18.3	4	18.3	11	11				
BARTON	10	1011.8	1011.4	-19.2	-24.8	-24.2	-3.9	12	-33.3	28	0	30	-26.1	70	4	1	4	0	127	0.4	4	18.3	4	18.3	11	11				
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BARTON	10	1011.8	1011.4	-19.2	-24.8	-24.2	-3.9	12	-33.3	28	0	30	-26.1	70	4	1	4	0	127	0.4	4	18.3	4	18.3	11	11				
BARTON	10	1011.8	1011.4	-19.2	-24.8	-24.2	-3.9	12	-33.3	28	0	30	-26.1	70	4	1	4	0	127	0.4	4	18.3	4	18.3	11	11				
BARTON	10	1011.8	1011.4	-19.2	-24.8	-24.2	-3.9	12	-33.3	28	0	30	-26.1	70	4	1	4	0	127	0.4	4	18.3	4	18.3	11	11				
BARTON	10	1011.8	1011.4	-19.2	-24.8	-24.2	-3.9	12	-33.3	28	0	30	-26.1	70	4	1	4	0	127	0.4	4	18.3	4	18.3	11	11				
BARTON	10	1011.8	1011.4	-19.2	-24.8	-24.2	-3.9	12	-33.3	28	0	30	-26.1	70	4	1	4	0	127	0.4	4	18.3	4	18.3	11	11				
BARTON	10	1011.8	1011.4	-19.2	-24.8	-24.2	-3.9	12	-33.3	28	0	30	-26.1	70	4	1	4	0	127	0.4	4	18.3	4	18.3	11	11				
BARTON	10	1011.8	1011.4	-19.2	-24.8	-24.2	-3.9	12	-33.3	28	0	30	-26.1	70	4	1	4	0	127	0.4	4	18.3	4	18.3	11	11				
BARTON	10	1011.8	1011.4	-19.2	-24.8	-24.2	-3.9	12	-33.3	28	0	30	-26.1	70	4	1	4	0	127	0.4	4	18.3	4	18.3	11	11				
BARTON	10	1011.8	1011.4	-19.2	-24.8	-24.2	-3.9	12	-33.3	28	0	30	-26.1	70	4	1	4	0	127	0.4	4	18.3	4	18.3	11	11				
BARTON	10	1011.8	1011.4	-19.2	-24.8	-24.2	-3.9	12	-33.3	28	0	30	-26.1	70	4	1	4	0	127	0.4	4	18.3	4	18.3	11	11				
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BARTON	10	1011.8	1011.4	-19.2	-24.8	-24.2	-3.9	12	-33.3	28	0	30	-26.1	70	4	1	4	0	127	0.4	4	18.3	4	18.3	11	11				
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BARTON	10	1011.8	1011.4	-19.2	-24.8	-24.2	-3.9	12	-33.3	28	0	30	-26.1	70	4	1	4	0	127											

CLIMATOLOGICAL DATA

METRIC UNITS

NOVEMBER 1974

State and Station	Elevation (ground)	Pressure		Temperature										Precipitation						Wind				No. of days (sunrise to sunset)			Possible sunshine (Sky cover, tenths (sunrise to sunset)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
		Station Q	Sea level	Average maximum	Average minimum	Average	Departure from normal	Temperature		Highest	Date	Lowest	Date	Max 32.2 °C or above	No. of days	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	25 mm. or more	Snow, ice pellets		Resultant speed					Resultant direction	Speed (1.6 kilometers)	Direction																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
								Date	Min. 0 °C or lower												Total	Maximum depth on ground																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
																								°C	°F	°C					°F	°C	°F	°C	°F	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in

CLIMATOLOGICAL DATA

METRIC UNITS

NOVEMBER 1974

State and Station	Elevation (ground)	Pressure		Temperature					Precipitation				Wind			No. of days (sunrise to sunset)		Possible sunshine (sunrise to sunset)										
		Station	Sea level	Average		Highest		Lowest		Date	Max 32.2 °C or above	Min. 0 ° or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours		No. of days With thunderstorms ≥25 mm. or more	Snow, Ice pellets	Resultant speed on ground	Resultant direction	Speed (1.6 kilometers)	Direction				
				C	F	C	F	C	F																C	F	C	F
INDIANA INDIANAPOLIS SOUTH-BEND	241	988.8	1018.4	10.4	50.8	23.9	2*	-6.7	26	0	17	7.8	76	-3	22	11	1	97	7.6	1.7	24	13.4	SW	23+	3	10	17	7.7
	234	988.2	1016.7	9.7	50.8	23.9	2	-8.3	26	0	12	7.8	92	1.3	22	17	1	201	102	2.2	24	11.6	SW	26	4	4	22	7.8
	211	982.7	1018.2	8.1	46.6	21.1	1	-6.1	25+	0	16	7.7	75	35	25	11	0	406	254	1.4	28	10.3	32	24+	8	8	14	6.4
IOWA DES MOINES DUBUQUE SIOUX CITY WATERLOO	284	987.7	1018.7	8.7	47.7	19.4	22*	-7.8	25+	0	18	7.3	30	-6	9	8	0	236	127	1.2	31	13.4	SW	14	9	5	16	6.3
	322	987.0	1018.7	8.3	47.0	19.4	22	-9.4	25	0	21	7.3	45	-18	22	7	0	187	127	1.3	30	14.8	NW	23	7	10	13	6.4
	265	985.1	1017.8	6.8	44.2	18.3	1	-10.6	25	0	21	7.4	23	-15	9	7	0	104	102	1.6	31	12.5	32	20	6	18	6.9	
KANSAS CONCORDIA DOVER CITY GOSSARD TOWNEA WICHITA	448	964.8	1018.7	11.2	52.2	20.0	22	-9.4	29	0	18	7.5	21	2	12	3	1	7	0	0.8	28	17.0	NW	13	10	4	10	6.2
	787	926.2	1018.3	13.1	55.6	24.4	21	-11.1	30	0	19	7.1	106	28	21	13	2	127	51	2.0	23	11.2	22	13	5	7	7.6	
	1114	889.3	1018.8	10.8	51.4	23.3	21	-16.1	30	0	28	7.5	104	18	25	14	3	36	25	1.7	20	12.1	25	14+	6	7	17	7.0
KENTUCKY COVINGTON LEXINGTON LOUISVILLE	265	985.1	1217.6	6.8	44.2	18.3	1	-10.6	25	0	21	7.4	23	-15	9	7	0	104	102	1.6	31	12.5	32	20	6	18	6.9	
	423	970.2	1218.9	12.7	56.9	21.7	1	-6.1	30	0	12	7.4	68	39	44	6	3	-6	25	0.7	28	17.4	N	13	9	6	15	6.3
	765	984.8	1218.7	11.2	52.2	20.0	22	-9.4	29	0	18	7.6	21	2	12	3	1	7	0	0.8	28	17.0	NW	13	10	4	10	6.2
LOUISIANA ALEXANDRIA BAYOU LA PRAIRIE NEW ORLEANS SHREVEPORT	28	1015.9	1220.2	19.5	67.1	28.3	19*	-1.7	26	0	4	8.9	98	-15	38	13	6	0	0	0.2	36	10.3	33	17	11	5	15	5.7
	28	1015.9	1220.2	19.5	67.1	28.3	19*	-1.7	26	0	4	8.9	98	-15	38	13	6	0	0	0.2	36	10.3	33	17	11	5	15	5.7
	77	1015.9	1220.2	19.5	67.1	28.3	19*	-1.7	26	0	4	8.9	98	-15	38	13	6	0	0	0.2	36	10.3	33	17	11	5	15	5.7
MAINE CALDWELL PORTLAND	190	989.8	1214.9	3.8	48.8	13.9	1	-17.2	23	0	25	-0.6	106	17	30	14	0	886	711	1.6	33	13.4	NW	26	1	6	23	8.6
	13	1012.5	1214.9	8.8	47.8	23.3	1	-9.4	28	0	19	7.3	123	0	54	13	0	81	51	1.6	33	13.4	NW	26	8	6	16	6.9
	45	1012.9	1218.4	14.4	57.9	28.3	4*	-7.8	27	0	10	2.8	75	-44	17	8	1	7	0	2.3	28	15.6	N	21	13	8	9	4.8
MASSACHUSETTS BLUE HILL OBS. ST. BOSTON ROCHESTER	192	1016.2	1215.2	9.5	49.1	23.3	1	-9.4	27	0	12	6.7	56	-72	18	12	0	122	102	2.3	30	10.6	NW	26	6	9	15	6.8
	321	977.3	1215.2	8.4	47.1	21.1	1	-10.0	27*	0	14	7.4	78	-41	32	9	0	30	25	2.5	31	13.0	32	26+	4	12	7.0	
	321	977.3	1215.2	8.4	47.1	21.1	1	-10.0	27*	0	14	7.4	78	-41	32	9	0	30	25	2.5	31	13.0	32	26+	4	12	7.0	
MICHIGAN ALBANY CERRILL DETROIT LANSING MARQUETTE MUSKEGON SAGINAW	210	989.5	1015.5	6.9	44.4	21.1	1	-12.2	26	0	22	7.6	36	-26	17	10	0	156	76	1.0	24	11.6	NW	21	3	7	20	8.0
	186	992.2	1016.6	9.7	49.5	23.9	1	-10.0	26	0	10	7.1	73	-14	23	15	0	156	127	2.4	25	11.2	31	21	3	7	18	7.4
	235	993.5	1016.6	9.7	49.5	23.9	1	-10.0	26	0	10	7.1	73	-14	23	15	0	156	127	2.4	25	11.2	31	21	3	7	18	7.4
MINNESOTA CLOUD INTERNATIONAL MINNEAPOLIS ROCHESTER ST. CLOUD ST. LOUIS	435	963.4	1216.2	12.1	53.8	23.9	8	-14.4	25	0	29	8.2	35	-9	33	12	0	144	51	1.8	30	11.5	NE	1	5	2	23	8.1
	435	963.4	1216.2	12.1	53.8	23.9	8	-14.4	25	0	29	8.2	35	-9	33	12	0	144	51	1.8	30	11.5	NE	1	5	2	23	8.1
	284	985.1	1217.3	4.7	40.5	16.7	8	-10.0	27	0	24	7.8	17	-14	11	9	0	30	25	1.6	28	12.5	NW	20	4	9	17	6.7
MISSISSIPPI JACKSON	94	1008.5	1220.5	19.7	67.5	28.9	2	-2.2	15	0	5	7.8	105	6	33	12	3	7	0	0.3	18	10.7	N	14+	12	7	11	5.6
	94	1008.5	1220.5	19.7	67.5	28.9	2	-2.2	15	0	5	7.8	105	6	33	12	3	7	0	0.3	18	10.7	N	14+	12	7	11	5.6
	94	1008.5	1220.5	19.7	67.5	28.9	2	-2.2	15	0	5	7.8	105	6	33	12	3	7	0	0.3	18	10.7	N	14+	12	7	11	5.6

CLIMATOLOGICAL DATA

METRIC UNITS

NOVEMBER 1974

State and Station	Pressure		Temperature				Precipitation				Wind			No. of days (sunrise to sunset)		Possible sunshine (sky sunrise to sunset)																		
	Elevation (ground)	Station	Sea level	Average maximum		Average minimum		Average		Departure from normal		Highest		Lowest			Date		No. of days		Max 32.2 °C or above		Min. 0 °C or lower		Average dew point		Average relative humidity							
				°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F		°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F				
MISSISSIPPI	88	1006.5	1020.8	20.3	5.9	13.2	0.8	28.3	2	-1.1	28+	0	4	6.7	71	134	44	43	12	2	0	0	0	0.3	36	7.6	34	20+	10	9	11	5.4		
MISSOURI	270	985.8	1018.9	10.9	1.3	6.1	-0.5	23.9	23	-5.0	25	0	15	0.6	73	97	51	28	9	1	160	152	1	1	1.2	25	17.0	NW	13	7	8	15	6.6	
COLUMBIA REGIONAL	309	980.7	1018.4	10.4	1.6	5.7	0.0	21.1	22	-5.0	29	0	10	0.6	73	41	4	31	7	1	36	51	1	1	1.3	25	14.3	SW	26	8	7	15	6.2	
KANSAS CITY	247	980.7	1018.4	10.4	1.6	5.7	0.0	21.1	22	-5.0	29	0	10	0.6	73	34	3	31	6	0	30	25	1	1	1.1	29	10.7	SW	23	9	7	14	5.9	
ST JOSEPH	113	988.0	1018.7	11.3	2.0	6.7	-0.6	23.9	2	-5.0	25	0	13	3.3	80	80	17	29	10	0	30	25	1	1	1.2	25	13.0	N	20+	9	4	17	6.7	
ST LOUIS	162	988.0	1018.7	11.3	2.0	6.7	-0.6	23.9	2	-5.0	25	0	13	3.3	80	80	17	29	10	0	30	25	1	1	1.2	25	13.0	N	20+	9	4	17	6.7	
SPRINGFIELD	384	972.9	1019.2	12.3	1.8	7.1	-0.4	23.3	23+	-5.6	15	0	14	1.1	70	138	78	72	8	2	201	152	1	1	1.5	23	16.5	NW	3	13	2	15	6.0	
MONTANA	1087	892.3	1018.6	8.1	-2.2	3.0	0.9	16.7	21	-10.6	29	0	25	-6.7	53	7	-11	20	4	0	28	25	1	1	3.8	25	17.0	SW	20+	11	4	15	6.0	
BILLINGS	1087	892.3	1018.6	8.1	-2.2	3.0	0.9	16.7	21	-10.6	29	0	25	-6.7	53	7	-11	20	4	0	28	25	1	1	3.8	25	17.0	SW	20+	11	4	15	6.0	
GLASGOW	696	934.0	1017.9	6.3	-5.0	0.7	2.3	15.6	21	-13.9	29	0	27	-5.0	40	7	-3	5	2	0	25	25	1	1	0.2	7	14.3	SW	25	11	6	13	5.5	
GREAT FALLS	1114	886.3	1018.0	9.0	-3.6	3.7	2.3	17.8	21	-8.3	28	0	27	-5.0	57	7	-7	5	4	0	33	25	1	1	5.3	22	17.0	SW	25+	17	6	17	6.9	
HAVRE	922.8	1017.0	9.3	-6.8	1.5	2.4	20.0	21+	-16.7	29	0	27	-5.6	61	1	-2	10	1	2	0	10	10	1	1	3.0	25	17.0	N	25	10	3	17	5.9	
HELENA	1167	882.2	1020.5	7.1	-4.1	1.5	1.7	15.6	21	-11.7	30	0	27	-5.6	64	8	-8	7	5	0	20	17	1	1	1.7	25	18.8	NW	12	5	7	18	7.1	
KALISPELL	904	913.6	1020.6	5.3	-2.7	1.3	2.0	12.2	21	-9.4	3	0	25	-3.3	74	7	-6	7	11	0	71	51	1	1	0.8	20	7.6	NW	16	21	0	5	25	9.0
MILES CITY	801	923.1	1018.3	7.2	-3.8	1.7	1.4	15.6	27	-15.6	29	0	27	-2.8	75	6	-7	11	0	18	18	1	1	1.4	20	7.6	NW	16	21	0	5	25	9.0	
MISSOULA	972	907.2	1021.6	6.3	-3.3	1.5	1.3	16.1	7	-8.9	17	0	26	-6.2	81	13	-12	3	10	0	69	25	1	1	0.5	28	13.0	NW	25	0	9	21	8.4	
NEBRASKA	561	951.2	1018.9	9.6	-2.6	3.5	0.1	20.6	22	-10.0	29	0	23	-2.8	69	6	-9	5	4	0	8	1	1	1.7	31	13.9	SW	26	9	10	11	5.8		
GRAND ISLAND	360	974.9	1018.6	10.1	-1.9	4.1	0.2	21.1	1	-10.0	28	0	23	-1.7	72	27	-5	17	4	0	48	51	1	1	1.5	32	14.8	NW	26	8	13	9	5.7	
LINCOLN	471	974.9	1018.6	10.1	-1.9	4.1	0.2	21.1	1	-10.0	28	0	23	-1.7	72	27	-5	17	4	0	48	51	1	1	1.5	32	14.8	NW	26	8	13	9	5.7	
NORFOLK	471	974.9	1018.6	10.1	-1.9	4.1	0.2	21.1	1	-10.0	28	0	23	-1.7	72	27	-5	17	4	0	48	51	1	1	1.5	32	14.8	NW	26	8	13	9	5.7	
OMAHA PLATTE	298	919.4	1019.8	10.7	-1.1	4.8	0.0	22.2	22	-16.7	30	0	28	-8.0	67	1	-12	1	3	0	137	127	1	1	1.7	33	21.5	NW	13	6	10	5.9		
SCOTT BLUFF	1206	880.8	1019.8	10.8	-6.1	2.4	0.1	21.1	1	-19.4	30	0	28	-6.7	62	11	1	10	3	0	38	25	1	1	1.9	32	14.3	SW	13	12	6	12	5.5	
VALENTINE	789			8.5	-5.1	1.9	0.5	22.2	22+	-12.8	29	0	29	-6.7	62	5	-7	1	6	0	38	25	1	1	1.9	32	14.3	SW	26	13	4	13	5.2	
NEVADA	1539	847.3	1021.1	10.2	-4.1	3.1	1.6	17.2	13	-10.6	30+	0	27	-5.0	61	0	-17	5	5	0	0	0	0	0	0.3	20	10.3	SW	21+	9	8	13	5.8	
ELKO	1539	847.3	1021.1	10.2	-4.1	3.1	1.6	17.2	13	-10.6	30+	0	27	-5.0	61	0	-17	5	5	0	0	0	0	0	0.3	20	10.3	SW	21+	9	8	13	5.8	
ELY	1906	810.7	1020.4	10.5	-5.7	2.4	1.3	19.4	12	-13.3	29	0	29	-6.0	65	6	-11	5	3	0	23	0	0	0	1.7	21	16.1	S	21	9	15	6	5.1	
LAS VEGAS	659	941.8	1019.0	19.2	6.1	12.7	0.8	23.9	10	0.0	30	0	1	-1.7	40	6	-5	5	2	0	0	0	0	0	1.1	27	14.8	SW	22	16	6	8	4.1	
RENO	1347	868.6	1020.5	13.4	-4.1	8.7	0.2	22.2	14	-9.4	29+	0	26	-3.3	63	7	-10	12	5	0	0	0	0	0.1	22	15.6	S	21	10	9	11	5.4		
WINNEVOCA	1311	871.3	1021.0	12.4	-5.8	3.3	0.3	20.0	14	-13.3	29	0	25	-3.9	65	5	-2	2	2	0	0	0	0	0	0.1	30	11.6	SW	21	10	11	9	5.2	
NEW HAMPSHIRE	104	1002.4	1015.4	8.6	-4.3	2.2	-1.2	25.6	1	-15.0	30	0	25	-1.7	78	81	-19	36	10	0	74	51	1	1	1.4	30	13.0	NW	26	7	5	18	6.8	
CONCORD	104	1002.4	1015.4	8.6	-4.3	2.2	-1.2	25.6	1	-15.0	30	0	25	-1.7	78	81	-19	36	10	0	74	51	1	1	1.4	30	13.0	NW	26	7	5	18	6.8	
MT WASHINGTON OBS	1909			-1.7	-8.3	-5.0	1.3	7.8	1	-21.7	27+	0	28	-1.7	78	291	96	60	16	0	1133	305	1	1	1.4	59	5.9	N	26	5	7	18	7.4	
NEW JERSEY	20	1014.9	1017.3	13.7	2.2	7.9	0.2	27.2	1	-8.3	27	0	14	2.2	68	27	-30	13	7	0	5	0	0	0	2.5	28	13.4	SW	21	10	10	10	5.7	
ATLANTIC CITY	3			12.3	4.7	8.6	-0.5	23.3	4+	-8.1	27	0	8	1.7	64	25	-39	10	9	0	5	0	0	0	2.0	29	12.5	WSW	21	8	11	11	6.0	
NEWARK	5	1015.6	1016.5	13.2	4.0	8.9	0.7	27.2	1	-3.6	27	0	8	1.7	64	34	-49	23	8	0	0	0	0	0	2.0	29	12.5	NW	26+	12	10	8	5.2	
TRENTON U	17			13.0	4.3	8.7	0.7	27.2	1	-3.0	27	0	8	1.7	64	34	-49	23	8	0	0	0	0	0	2.0	29	12.5	NW	26+	12	10	8	5.2	
NEW MEXICO	1619	839.8	1018.6	14.4	-0.1	7.2	0.3	19.9	13	-6.7	27	0	13	-3.3	53	10	2	6	3	2	15	25	1	1	0.8	1	15.6	SW	2	14	9	7	4.2	
ALBUQUERQUE	1515			13.1	-1.8	5.6	0.3	23.9	22+	-13.9	30	0	23	-3.3	53	8	-1	6	3	2	15	25	1	1	0.4	23	10.3	E	13	14	9	7	4.3	
CLAYTON	1112	892.3	1018.2	15.7	1.5	8.6	0.3	22.8	13	-6.7	30	0	11	1.7	69	2	-5	2	2	1	0	0	0	0	0.4	23	10.3	E	13	14	9	7	4.3	
ROSWELL	1112	892.3	1018.2	15.7	1.5	8.6	0.3	22.8	13	-6.7	30	0	11	1.7	69	2	-5	2	2	1	0	0	0	0	0.4	23	10.3</							

METRIC UNITS

NOVEMBER 1974

[illegible]

NOVEMBER 1974

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CLIMATOLOGICAL DATA

METRIC UNITS

NOVEMBER 1974

State and Station	Elevation (ground)	Pressure		Temperature										Precipitation					Wind				No. of days (sunrise to sunset)			Possible sunshine (sunrise to sunset)							
		Station Q	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	No. of days		Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction		Date						
											Max 32.2 °C or above	Min. 0 °C or lower																					
											C	°C																C	°C	C	°C	C	°C
WEST INDIES SAN JUAN P.R.	4	1010.8	1013.3	29.6	23.7	26.7	0.7	32.8	11	22.2	21.4	2	0	21.1	73	166	27	38	18	2	0	0	2.7	11	15.2	E	7	0	16	14	7.2	12	
WEST VIRGINIA	763	929.6	1019.5	11.1	0.9	6.0	0.6	23.9	1	-7.8	15	0	17	0.0	71	103	29	30	15	1	333	152	1.9	23	16.5	30	20	30	20	4	11	15	6.9
	284	984.4	1019.2	13.2	1.4	7.3	-0.1	25.6	2	-8.3	27	0	17	1.1	68	94	23	23	13	1	69	1	1.5	25	9.4	29	20	3	11	16	7.3		
	594	947.2		10.4	-3.1	3.7	-1.2	23.3	4	-16.7	27	0	20			55	-14	15	14		173	25	1.4	25	10.3	25	14	2	9	19	7.4		
	252	988.5	1019.0	13.2	2.8	8.0	0.5	25.6	2	-6.1	27	0	13	1.7	67	102	29	31	14	1	1	0	1.4	25	10.3	25	14	3	7	20	8.0		
	187			12.7	2.4	7.6	0.3	23.9	2	-5.6	27	0	13			62	-2	15	15		28	1	1.9	27	11.6	NW	20	3	8	19	7.7		
WISCONSIN	708	989.5	1015.8	5.7	-3.1	1.3	0.2	20.0	2	-10.6	26	0	25	-2.2	77	53	5	36	9	0	38	28	1.9	27	11.6	NW	20	3	8	19	7.7	34	
	194	982.9	1017.9	6.2	-1.0	3.0	1.1	19.4	1	-7.8	25	0	22	-1.7	76	28	-6	26	10	0	76	31	1.2	27	13.0	NW	21	7	4	19	7.1	37	
	762	984.6	1016.6	7.1	-1.7	2.7	1.3	21.6	2	-8.9	23	0	24	-0.6	79	47	-2	26	11	0	76	31	1.4	27	13.0	NW	21	7	4	19	7.1	37	
	205	990.9	1016.7	7.3	-0.1	3.7	1.2	21.7	2	-8.6	16	0	19	-0.6	75	47	-4	24	11	0	51	25	2.4	26	13.4	NE	30	5	7	18	7.2	35	
WYOMING	1627	838.1	1019.3	6.8	-4.3	1.3	0.2	14.4	21	-15.0	29	0	27	-9.1	61	12	-6	6	6	0	226	76	4.3	23	16.5	22	25	9	10	11	5.7		
	1867	811.5	1018.6	8.2	-4.2	2.0	0.1	17.8	21	-16.1	30	0	26	-8.9	52	12	-2	5	7	0	61	25	3.9	30	17.0	NW	19	11	6	13	5.4	62	
	1894	830.0	1020.1	7.7	-5.7	1.1	1.3	16.7	21	-16.7	29	0	29	-9.2	61	5	-17	4	3	0	102	76	0.2	26	16.5	NW	12	9	12	9	5.3	60	
	1708	879.8	1019.9	8.5	-6.0	1.3	0.5	18.9	21	-13.9	30	0	30	-9.0	66	16	-7	10	4	0	112	51	1.6	31	14.8	NW	25	5	10	15	6.5	65	

HEATING DEGREE DAYS

(Base 65°F.)

NOVEMBER 1974

State and Station	Current season		Normals July through this month	State and Station	Current season		Normals July through this month	State and Station	Current season		Normals July through this month	State and Station	Current season		Normals July through this month
	This month	Period July through this month			This month	Period July through this month			This month	Period July through this month			This month	Period July through this month	
ALABAMA				IDAHO				NEBRASKA				TENNESSEE			
BIRMINGHAM	378	556	534	BOISE	689	1154	1301	GRAND ISLAND	793	1300	1279	BRISTOL	527	925	865
HUNTSVILLE	414	628	611	LEWISTON	651	1075	1285	LINCOLN	762	1215	1192	CHATTANOOGA	517	795	674
MOBILE	215	273	250	POCAHELLO	829	1555	1606	NORFOLK	817	1365	1398	KNOXVILLE	439	677	659
MONTGOMERY	315	435	399					NORTH PLATTE	900	1569	1459	MEMPHIS	367	516	572
ALASKA				ILLINOIS				OMAHA	726	1232	1128	NASHVILLE	464	708	688
ANCHORAGE	1263	3150	3262	CAIRO U	465	701	669	SCOTT'S BLUFF	854	1541	1491	DAK RIDGE	568	959	773
ANNETTE	776	2104	2086	CHICAGO O HARE	724	1285	1249	VALENTINE	876	1548	1554				
BARROW	2180	6444	6211	CHICAGO MIDWAY	715	1234	1119	NEVADA				TEXAS			
BARTER ISLAND	2299	6858	6037	MOLINE	739	1276	1208	ELKO	815	1608	1802	ABILENE	400	527	425
BETHEL	1519	3852	3828	PEORIA	756	1268	1158	ELKO	892	1777	1869	AMARILLO	571	889	787
BETTES	2257	4732	4774	ROCKFORD	804	1384	1335	LAS VEGAS	300	355	431	AUSTIN	271	287	244
BIG DELTA	1815	4038	4122	SPRINGFIELD	680	1116	1031	RENO	733	1425	1438	BROWNVILLE	77	80	40
COLD BAY	917	2959	3126	INDIANA				WINNEMUCCA	806	1553	1596	CORPUS CHRISTI	117	121	88
FAIRBANKS	1935	3959	4170	EVANSVILLE	537	941	873					DALLAS FT WORTH	296	332	347
GULFKANA	1620	3862	4213	FORT WAYNE	715	1309	1209	NEW HAMPSHIRE				DEL RIO	223	238	218
HOMER	1052	3028	3285	INDIANAPOLIS	671	1219	1069	CONCORD	865	1832	1540	EL PASO	445	593	494
JUNEAU	851	2642	2788	SOUTH BEND	672	1197	1258	CONCORD	1252	4363	4145	GALVESTON	121	123	117
KING SALMON	1339	3270	3464					NEW JERSEY				HOUSTON INTERCON	500	771	656
KODIAK	952	2799	2760	IOWA				ATLANTIC CITY	557	1018	867	LURBOCK	344	453	437
KOTZEBE	1868	4436	4537	BURLINGTON	755	1271	1154	ATLANTIC CITY	524	939	720	MIDLAND	230	250	219
MC GRATH	1936	4168	4243	DES MOINES	755	1242	1273	NEWARK	521	924	841	PURT ARTHUR	408	378	371
NOME	1649	4348	4253	DUBUQUE	837	1542	1467	TRENTON U	524	937	852	SAN ANGELO	263	281	211
ST. PAUL ISLAND	1053	3676	3556	SIOUX CITY	820	1324	1362					SAN ANTONIO	155	162	138
SUMMIT	1630	4351	4394	WATERLOO	842	1528	1493	NEW MEXICO				VICTORIA	274	301	292
TALKEETNA	1399	3408	3554					ALBUQUERQUE	593	875	840	WACO	398	488	461
UNALAKLEET				KANSAS				CLAYTON	680	1158	1078	WICHITA FALLS			
YAKUTAT	884	2771	2970	CONCORDIA	692	1040	1056	ROSWELL	518	812	755	UTAH			
ARIZONA				ODDGE CITY	633	932	954					MILFORD	807	1395	1401
FLAGSTAFF	841	1611	1792	GOODLAND	811	1362	1290	NEW YORK				SALT LAKE CITY	638	1013	1289
PHOENIX	112	133	199	TOPEKA	669	999	977	ALBANY	786	1675	1350	WENDOVER	764	1230	1262
TUCSON	218	271	199	WICHITA	596	844	849	BUFFALO	825	1710	1493				
WINSLOW	667	971	925	KENTUCKY				NEW YORK U	738	1410	1358	VERMONT			
YUMA	45	57	108	COVINGTON	614	1132	951	NEW YORK KENNEDY	502	895	766	BURLINGTON	858	1755	1602
ARKANSAS				LEXINGTON	578	1041	898	NEW YORK LA GUARDIA	508	877	844	VIRGINIA			
FORT SMITH	405	632	573	LOUISVILLE	543	979	876	ROCHESTER	512	916	785	LYNCHBURG	537	915	807
LITTLE ROCK	461	535	589					SYRACUSE	735	1501	1294	NORFOLK	371	600	552
CALIFORNIA				LOUISIANA					726	1512	1261	RICHMOND	513	885	704
BAKERSFIELD	244	270	331	ALEXANDRIA	299	354	381	NORTH CAROLINA				RUANOK	539	931	816
BISHOP	568	851	884	BATON ROUGE	236	263	262	ASHEVILLE	519	900	880	WALLOPS ISLAND	504	850	658
BLUE CANYON	572	981	1149	LAKE CHARLES	206	222	213	CAPE MATTERAS R	306	450	353	WASHINGTON	634	1338	1487
EUREKA U	407	1483	1498	SHREVEPORT	194	218	219	CHARLOTTE	454	720	582	OLYMPIA	595	1583	1705
FRESNO	350	409	435	MAINE				GREENSBORO	477	774	734	QUILLAYUTE	504	974	1183
LONG BEACH	87	114	216	CARIBOU	998	2262	2198	RALEIGH	501	813	648	SEATTLE	591	1171	1341
LOS ANGELES	100	126	292	PORTLAND	762	1624	1567	WILMINGTON	333	487	368	SEATTLE-TACOMA	552	1568	1682
LOS ANGELES U	73	98	153					NORTH DAKOTA				SPOKANE	965	2420	2727
MT SHASTA R	694	1261	1367	MARYLAND				BISMARCK	1078	2142	1952	STAMPEDE PASS R	583	953	1088
OAKLAND	232	482	639	BALTIMORE	509	861	844	FARGO	1066	2042	1930	WALLA WALLA U	706	1289	1464
RED BLUFF	404	479	421					WILLISTON	1082	2060	2036	YAKIMA			
SACRAMENTO	347	398	466	MASSACHUSETTS				OHIO				WEST VIRGINIA			
SANDBERG R	473	766	763	BLUE HILL OBS R	695	1383	1178	AKRON	637	1244	1224	BECKLEY	960	1309	1222
SAN DIEGO	97	111	205	BOSTON	597	1149	979	CINCINNATI ABBE OB	554	851	854	CHARLESTON	590	1088	901
SAN FRANCISCO	329	684	671	WORCHESTER	760	1557	1346	CLEVELAND	660	1266	1177	ELKINS	784	1576	1344
SAN FRANCISCO L	243	835	841					COLUMBUS	609	1113	1125	HUNTINGTON	260	1010	896
SANTA MARIA	287	630	737	MICHIGAN				MANSFIELD	695	1283	1111	PARKERSBURG U	580	1048	914
STOCKTON	400	460	451	ALPENA	849	1944	1902	TOLEDO	730	1400	1263	WISCONSIN			
COLORADO				DETROIT	654	1174	1150	YOUNGSTOWN	692	1406	1274	GREEN BAY	912	1876	1684
ALAMOSA	1067	2212	2146	DETROIT METRO	728	1412	1240					LA CROSSE	822	1552	1466
COLORADO SPRINGS	789	1412	1458	FLINT	737	1481	1431	OKLAHOMA				MADISON	829	1563	1609
DENVER	803	1392	1296	GRAND RAPIDS	814	1673	1347	OKLAHOMA CITY	463	607	634	MILWAUKEE	786	1504	1486
GRAND JUNCTION	756	1082	1140	HOUGHTON LAKE	556	1909	1858	TULSA	473	641	621				
PUEBLO	698	1051	1116	LANSING	762	1589	1389					WYOMING			
CONNECTICUT				MARQUETTE U	843	1870	1800	ASTORIA	502	1301	1448	CASPER	912	1799	1728
BRIDGEPORT	551	986	873	MUSKEGON	750	1510	1384	BURNS U	849	1599	1749	CHEYENNE	873	1743	1693
HARTFORD	725	1391	1213	SAULT STE MARIE	959	2250	2061	EUGENE	480	855	1159	LANDER	930	1782	1817
DELAWARE				MINNESOTA				MEACHAM	869	1813	2009	SHERIDAN	918	1836	1785
WILMINGTON	553	980	865	DULUTH	1069	2465	2198	MEDFORD	611	979	1126				
DIST OF COLUMBIA				INTERNATIONAL FALLS	1106	2405	2412	PENDLETON	600	960	1208				
WASHINGTON DULLES	574	1009	943	MINNEAPOLIS	933	1737	1655	PORTLAND	500	878	1161				
WASHINGTON NATIONAL	446	722	714	ROCHESTER	941	1778	1698	SALEM	550	1037	1176				
FLORIDA				ST CLOUD	1005	2032	1872	SEXTON SUMMIT R	748	1495	1555				
APPALACHICOLA U	142	150	180	MISSISSIPPI				PENNSYLVANIA							
DAYTONA BEACH	69	69	97	JACKSON	308	393	392	ALLENTOWN	638	1234	1116				
FORT MYERS	11	11	44	MERIDIAN	295	406	442	ERIE	713	1449	1370				
JACKSONVILLE	181	219	180	MISSOURI				HARRISBURG	600	1108	980				
KEY WEST	0	0	0	COLUMBIA REGIONAL	653	1079	922	PHILADELPHIA	500	859	851				
LAKELAND U	38	38	72	KANSAS CITY	660	1034	919	PITTSBURGH	630	1138	1204				
MIAMI	2	2	13	ST JOSEPH	675	1143	1000	SCRANTON	655	1320	1258				
ORLANDO	40	40	79	ST LOUIS	625	994	859	WILLIAMSPORT	648	1279	1184				
PENSACOLA	185	204	221	SPRINGFIELD	600	955	853								
TALLAHASSEE	272	328	235	MONTANA				RHODE ISLAND							
TAMPA	39	39	71	BILLINGS	821	1617	1612	BLOCK ISLAND	546	1042	970				
WEST PALM BEACH	4	4	22	GLASGOW	946	1801	1965	PROVIDENCE	634	1260	1104				
GEORGIA				GREAT FALLS	783	1628	1756	SOUTH CAROLINA							
ATHENS	381	545	540	HAVRE	915	1836	1942	CHARLESTON	299	440	345				
ATLANTA	381	555	553	HELENA	905	1977	2004	CHARLESTON U	248	339	281				
AUGUSTA	393	556	448	KALISPELL	914	2068	2285	COLUMBIA	342	523	453				
COLUMBUS	314	435	405	MILES CITY	891	1641	1728	GRNVILLE-SPRTNBRG	464	708	574				
DODGE	299	408	386	MISSOULA	903	1795	2040								
ROME	459	1394	650					SOUTH DAKOTA							
SPRINGFIELD	243	324	313					ABERDEEN	967	1715	1803				
								HURON	954	1623	1651				
								RAPID CITY	849	1541	1583				

(Base 65°F.)

NOVEMBER 1974

State and station	Current season		Normals January through this month	State and station	Current season		Normals January through this month	State and station	Current season		Normals January through this month	State and station	Current season		Normals January through this month
	This month	Period January through this month			This month	Period January through this month			This month	Period January through this month			This month	Period January through this month	
ALABAMA				HAWAII				NEBRASKA				SOUTH CAROLINA			
BIRMINGHAM	15	1640		HILO	262	3372		GRAND ISLAND	0	1034		CHARLESTON	18	2041	
HUNTSVILLE	17	1395		HONOLULU	328	4302		LINCOLN	0	1128		CHARLESTON U	32	2194	
MOBILE	45	2512		KAMULUI	311	3722		NORFOLK	0	911		COLUMBIA	29	2194	
MONTGOMERY	18	1933		LIHUE	336	4126		NORTH PLATTE	0	698		GRANVILLE-SPRTNBRG	13	1435	
ALASKA				IDAH0				OMAHA	0	1021		SOUTH DAKOTA			
ANCHORAGE	0	1		BOISE	0	851		SCOTT'SBLUFF	0	729		ABERDEEN	0	673	
ANNETTE	0	12		LEWISTON	0	906		VALENTINE	0	806		HURON	0	771	
BARRON	0	0		POCATELLO	0	460		NEVADA				RAPID CITY	0	697	
BARTER ISLAND	0	0		ILLINOIS				ELY	0	209		SIOUX FALLS	0	791	
BETHEL	0	3		CAIRO U	11	1476		LAS VEGAS	0	3403		TENNESSEE			
BETTSVILLE	0	61		CHICAGO O HARE	0	610		RENC	0	258		BRISTOL	1	893	
BIG DELTA	0	12		CHICAGO MIDWAY	0	770		WINNEMUCCA	0	580		CHATTANOOGA	2	1058	
COLD BAY	0	0		MOBILE	0	797		NEW HAMPSHIRE				KNOXVILLE	17	1340	
FAIRBANKS	0	74		PEORIA	0	817		CONCORD	0	302		MEMPHIS	23	1840	
GULKANA	0	0		ROCKFORD	0	679		MT WASHINGTON OBS	0	0		NASHVILLE	22	1440	
HOMER	0	0		SPRINGFIELD	2	984		NEW JERSEY				OSAK RIDGE	0	953	
JUNEAU	0	0		INDIANA				ATLANTIC CITY	6	906		TEXAS			
KING SALMON	0	0		EVANSVILLE	15	1229		ATLANTIC CITY U	1	824		ABILENE	5	2267	
KODIAK	0	3		FORT WAYNE	0	727		NEWARK	3	1125		AMARILLO	0	1395	
KOTZEBUE	0	0		INDIANAPOLIS	2	890		TRENTON U	7	997		AUSTIN	34	2745	
MC GRATH	0	11		SOUTH BEND	0	755		NEW MEXICO				BROWNSVILLE	130	3812	
NOME	0	1		IOWA			ALBUQUERQUE	0	1393		CORPUS CHKISTI	97	3635		
ST. PAUL ISLAND	0	0		BURLINGTON	0	740		CLAYTON	0	768		DALLAS FT WORTH	23	2576	
SUMMIT	0	0		DES MOINES	0	974		ROSWELL	0	1655		DEL RIO	23	3197	
TALKEETNA	0	0		DUBUQUE	0	495		NEW YORK				EL PASO	0	2053	
UNALAKLEET	0	0		SIOUX CITY	0	980		ALBANY	1	386		GALVESTON	68	2432	
YAKUTAT	0	0		WATERLOO	0	642		BINGHAMTON	0	372		HUSTRON INTERCON	63	2803	
ARIZONA				KANSAS			BUFFALO	0	428		LUBOCK	0	1740		
FLAGSTAFF	0	232		CONCORDIA	0	1262		NEW YORK U	6	1088		MIDLAND	0	2279	
PHOENIX	13	4285		DODGE CITY	0	1478		NEW YORK KENNEDY	0	1		PURT ARTHUR	58	2645	
TUCSON	1	2788		GODDARD	0	814		NEW YORK LA GUARDIA	4	1017		SAN ANGELO	15	2422	
WINSLON	0	1265		TOPEKA	0	1173		ROCHESTER	0	540		SAN ANTONIO	34	2679	
YUMA	36	4313		WICHITA	0	1466		SYRACUSE	0	405		VICTORIA	73	3341	
ARKANSAS				KENTUCKY			NORTH CAROLINA				WACO	31	2832		
FORT SMITH	7	1567		COVINGTON	2	900	ASHEVILLE	0	731		WICHITA FALLS	0	2377		
LITTLE ROCK	14	1787		LEXINGTON	4	868	CAPE MATTERERS R	20	1672		UTAH				
CALIFORNIA				LOUISVILLE	10	1095	CHARLOTTE	10	1337		MILFORD	0	708		
BAKERSFIELD	0	2883		ALEXANDRIA	33	2311	GREENSBORO	18	1189		SALT LAKE CITY	0	1191		
BISHOP	0	1175		BATON ROUGE	49	2608	RALEIGH	21	1325		WENDOVER	0	1348		
BLUE CANYON	0	495		LAKE CHARLES	61	2621	WILMINGTON	32	1978		VERMONT				
EUREKA U	0	0		NEW ORLEANS	45	2610	NORTH DAKOTA				BURLINGTON	0	442		
FRESNO	24	2020		SHREVEPORT	35	2164	BISMARCK	0	409		VIRGINIA				
LONG BEACH	40	1106		MAINE			FARGO	0	444		LYNCHBURG	10	935		
LOS ANGELES	40	627		CARIBOU	0	116	WILLISTON	0	440		NORFOLK	32	1931		
LOS ANGELES U	53	1293		PORTLAND	0	296	OHIO				RICHMOND	20	1259		
MT SHASTA R	0	326		MARYLAND			AKRON	1	585		RUANOKE	12	901		
OAKLAND	0	120		BALTIMORE	11	1098	CINCINNATI ABBE DB	3	1024		WALLOPS ISLAND	13	1005		
RED BLUFF	0	1993		MASSACHUSETTS			CLEVELAND	2	569		WASHINGTON				
SACRAMENTO	0	1138		BLUE HILL OBS R	0	524	COLUMBUS	0	836		OLYMPIA	0	118		
SANBROOK R	0	1026		BOSTON	3	646	MANSFIELD	1	640		QUILLAYUTE	0	40		
SAN DIEGO	19	7111		WORCHESTER	0	430	TOLEDO	0	608		SEATTLE	0	184		
SAN FRANCISCO	0	127		MICHIGAN			YOUNGSTOWN	1	437		SEATTLE-TACOMA	0	196		
SAN FRANCISCO U	0	77		ALPENA	0	221	OKLAHOMA				SPokane	0	405		
SANTA MARIA	0	46		DETROIT	1	894	OKLAHOMA CITY	0	1651		STAMPEDE PASS R	0	77		
STOCKTON	0	1623		DETROIT METRO	0	620	TULSA	2	1770		WALLA WALLA U	0	968		
COLORADO				FLINT	0	493	OREGON				YAKIMA	0	586		
ALAMOSA	0	44		GRAND RAPIDS	0	400	ASTORIA	0	29		WEST INDIES				
COLORADO SPRINGS	0	524		HOUGHTON LAKE	0	241	BURNS U	0	406		SAN JUAN P.R.	453	5402		
DENVER	0	715		LANSING	0	487	EUGENE	0	440		WEST VIRGINIA				
GRAND JUNCTION	0	1273		MARQUETTE U	0	290	HEACHAH	0	194		BECKLEY	0	345		
PUEBLO	0	1098		MUSKOGON	0	379	MEDFORD	0	768		CHARLESTON	0	910		
CONNECTICUT				SAULT STE MARIE	0	126	PONDELETON	0	958		FLAYNS	0	244		
BRIDGEPORT	0	929		MINNESOTA			PORTLAND	0	409		HUNTINGTON	7	491		
HARTFORD	3	764		DULUTH	0	149	SALEM	0	298		PARKERSBURG U	3	876		
DELAWARE				INTERNATIONAL FALLS	0	259	SEXTON SUMMIT R	0	348		WISCONSIN				
WILMINGTON	6	1109		MINNEAPOLIS	0	619	PACIFIC AREA				GREEN BAY	0	323		
DIST OF COLUMBIA				ROCHESTER	0	487	GUAN TAGUAC R	444	4693		LA CROSSE	0	602		
WASHINGTON DULLES	11	872		ST CLOUD	0	394	JOHNSTON	434	4842		MADISON	0	457		
WASHINGTON NATIONAL	27	1437		MISSISSIPPI			KORD R	524	5699		MILWAUKEE	0	386		
FLORIDA				MERIDIAN	34	2017	KWAJALEIN	517	5656		WYOMING				
APALACHICOLA U	50	2749		MISSOURI			MAJURO	487	5329		CASPER	0	406		
DAYTONA BEACH	90	2973		COLUMBIA REGIONAL	0	993	PAGO PAGO	462	4949		CHEYENNE	0	349		
FORT MYERS	187	3901		KANSAS CITY	0	1189	PUNAPE R	476	5232		LANDER	0	467		
JACKSONVILLE	47	2442		ST JOSEPH	0	1077	TRUK MDEN ISLAND	508	5580		SHERIDAN	0	410		
KEY WEST	317	4858		ST LOUIS	2	1175	WAKE	445	4722						
LAKELAND U	122	3341		SPRINGFIELD	0	1095	YAP R	477	5309						
MIAMI	245	4494		MONTANA			PENNSYLVANIA								
ORLANDO	125	3167		BILLINGS	0	572	ALLENTOWN	0	696						
PENSACOLA	51	2822		GLASGOW	0	491	ERIE	0	326						
TALLAHASSEE	27	2459		GREAT FALLS	0	473	HARRISBURG	3	1163						
TAMPA	130	3513		HAVER	0	485	PHILADELPHIA	12	1145						
WEST PALM BEACH	218	4029		HELENA	0	323	PITTSBURGH	4	657						
GEORGIA				KALISPELL	0	215	SCRANTON	0	447						
ATHENS	11	1507		MILES CITY	0	714	WILLIAMSPORT	0	564						
ATLANTA	11	1506		WISCONSIN	0	303	RHODE ISLAND								
AUGUSTA	11	1718					BLOCK ISLAND	0	480						
COLUMBUS	10	2026					PROVIDENCE	1	6981						
MACON	13	2114													
ROME	6	215													
SAVANNAH	32	2281													

STORM SUMMARY

NOVEMBER 197

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				@HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				♦ ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	† DAMAGE	DEATHS	INJURIES	† DAMAGE		DEATHS	INJURIES	† DAMAGE		DEATHS	INJURIES	† DAMAGE		DEATHS	INJURIES	† DAMAGE		DEATHS	INJURIES	† DAMAGE		DEATHS	INJURIES	† DAMAGE	
								PROP. ERTY	CORPS			PROP. ERTY	CORPS			PROP. ERTY	CORPS			PROP. ERTY	CORPS			PROP. ERTY	CORPS			PROP. ERTY	CORPS
Alabama	3	3			4																								
Alaska												7																	
Arizona	*																												
Arkansas											5	5														1	1	° 4	C
California	*																												
Colorado												4																	
Connecticut	*																												
Delaware	*																												
Florida	*																												
Georgia	3	2		21	6						5	5																	
Hawaii																													
Idaho	*											?															° 4	C	
Illinois												4																	
Indiana	*																												
Iowa	*																												
Kansas								?	?					1		4		4										5	6
Kentucky	*																												
Louisiana	1	1			4							3	?			3	?												
Maine																		5									6		
Maryland & D.C.*																													
Massachusetts	*																												
Michigan	*																												
Minnesota	*																												
Mississippi	1	1			1																								
Missouri										8		5																4	
Montana																													
Nebraska												4																	
Nevada	*											4																	
New Hampshire	*																												
New Jersey	*																												
New Mexico	*																												
New York																			?	?	?					8			
North Carolina	*																												
North Dakota	*																												
Ohio																5											4		
Oklahoma	2	1			5																								
Oregon												5	4			4												?	?
Pacific Area																													
Pennsylvania																													
Puerto Rico																										2		° 6	C
Rhode Island	*																												
South Carolina	1	1			5						1	4																	
South Dakota	*																												
Tennessee								4			1	6		1															
Texas	2	2			3							4				4										14		6	?
Utah	*													</															

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

NOVEMBER 1974

Herbert J. Thompson and Raymond J. Haley,
Office of Hydrology

November was marked by a continuance of severe flash flooding in Puerto Rico and the Virgin Islands, and by major flooding in the Arkansas and Red Basins, and in the West Gulf Coast Drainage in Texas. Significant flooding occurred in the Marais Des Cygnes Basin in Kansas, the White River Basin in Arkansas, and along the Calcasieu River in Louisiana.

Minor flooding occurred on the Iowa River in Iowa; the Wakarusa River in Kansas; the Blue, Grand, and Blackwater Rivers in Missouri; tributaries of the East Fork of the White River in Indiana; and the

Little Wasbash River in Illinois.

Flash flooding claimed 13 lives in and around Austin, Texas, and affected a number of other communities including San Marcos, Texas; Ft. Smith, Arkansas; and Tulsa and Oklahoma City in Oklahoma.

Hydrologic events of unusual significance or involving loss of life or property damage are discussed in more detail below.

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
MISSOURI BASIN			
Marais Des Cygnes River Basin	Heavy rains the last few days of October over the upper portion of the basin caused a strong rise which sent the river over flood stage at Osawatomie, Kansas, on the 1st. This rise was augmented by rains of 1.5 to 5 inches on the 2d resulting in overflows of 3 to 4.4 feet on Pottawatomie Creek below Garnett, Kansas, and on the Marais Des Cygnes from Osawatomie to State Line. A crest 5.5 feet over flood stage occurred on the Marmaton River at Fort Scott, Kansas. A total of 5,150 acres were inundated with damage limited to field crops.	0	52
WHITE BASIN			
White River Basin	Above normal rainfall occurred over the basin with periods of rain scattered through the month. The Cache River went over flood stage at Patterson, Ark., on the 12th and continued in flood through the end of the month. Two periods of flooding occurred on the White River at Augusta, Ark., where flooding also continued into December. Damage was limited to low-lying agricultural land.	0	N.A.
ARKANSAS BASIN			
Arkansas Basin in Kansas	Above normal precipitation totals were reported over the basin during November ranging up to 7.0 inches at Columbus. Much of this occurred on the 2d-3d with amounts of 2 to 4.5 inches causing widespread flash flooding on small streams in southeast Kansas. Major stream flooding occurred on the Neosho and Verdigris Rivers. A crest 10 feet over flood stage was reported on the Verdigris River at Independence and nearly 8 feet of flooding occurred on the Neosho River at Oswego. Minor flooding occurred at Arkansas City on the Walnut and Arkansas Rivers. Damage was mainly to crops and farm land with 40,000 acres inundated. However, there was considerable damage to roads, bridges, and culverts estimated at \$45,000.	0	524

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

NOVEMBER 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
ARKANSAS BASIN-Continued			
Arkansas Basin in Oklahoma	Rainfall over northeastern Oklahoma was much above normal with monthly totals up to more than 9 inches. Much of this total occurred during the first four days of the month with as much as 6 inches and an average of 4 inches over the area during this period. This rain, combined with the 3 to 7.5 inches which occurred over the same area the last four days of October, produced major flooding on many streams in the basin. Crest stages on some of the smaller streams were 10 to 14 feet above flood stage. These included Black Bear and Bird Creeks and the lower Verdigris and Deep Fork Rivers. Many residents of North Oklahoma City on the Deep Fork and Skiatook, Sperry, and Owasso on Birch Creek were forced from their homes. Crests 5 to 8 feet over flood stage occurred on the Cimarron, Spring, Chikaskia, Illinois, North Canadian and the lower Neosho Rivers. At Blackwell on the Chikashia River, the crest was nearly 7 feet over flood stage and was the fourth highest of record. An estimated total of 10,000 people were driven from their homes. Disaster relief funds were requested for Oklahoma, Logan, Canadian, Pawnee, Tulsa, Osage, Creek, and Washington counties.	0	10,000
Lower Arkansas Basin	Light flooding occurred during November in the basin with crests 2 to 3 feet over flood stage on Petit Jean Creek and the Fourche La Fave River. On the lower Arkansas River main stem crests 2 to 5 feet over flood stage occurred from Ozark Lock & Dam to Morrilton.	0	N.A.
RED BASIN			
Red Basin Tributaries in Oklahoma	Serious flooding continued from October on the Blue River and Clear Boggy Creek in southeastern Oklahoma as discussed in the October report. Heavy rains averaging 2.5 inches over that area on the 10th caused minor flooding on these two streams and also on the Glover River.	0	N.A.
Sulphur River	Serious flooding from heavy rains the last of October continued into the first week of November with a record crest at Hagansport, Texas, on the 1st as discussed in the October report. Above normal rainfall ranging from 6 to 10 inches over the basin during November caused three additional periods of flooding at Hagansport with crests 3 to 4 feet over flood stage. At Naples, Texas, the river was over flood stage most of the month with crests of 7.3 and 5.6 feet over flood stage on the 5th and 29th, respectively. Flooding continued into December at both stations.	0	N.A.
Ouachita River Basin	Monthly rainfall totals ranged up to 400 percent of normal. Heaviest rain occurred the first four days of the month and on the 10th and 24th. Each storm produced a period of flooding at Camden, Arkansas. The most serious of which began on the 25th and continued into December with a crest 6.7 feet over flood stage on Dec. 3. Damage was primarily agricultural with the harvesting of field crops interrupted.	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

NOVEMBER 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
RED BASIN-Continued			
Red River Main Stem	Locally heavy rain combined with heavy inflow from tributaries in Oklahoma discussed above caused flooding around DeKalb, Texas. Nearly 27,000 acres were inundated with losses to soybeans, hay, and cattle.	0	115
WEST GULF OF MEXICO DRAINAGE			
Calcasieu River	Monthly rainfall totals ranged from 5 to 9 inches over the basin which combined with high river flows carried over from October to produce two periods of moderate flooding at Hineston, Louisiana.	0	N.A.
Sabine River	Flooding was in progress at Emory, Texas, as the month began from the heavy rains of 4 to 9 inches on Oct. 30-31 over the headwaters of the stream. Flooding started at Mineola and Gladewater, Texas, early in November as this rise moved downstream and continued the rest of the month, augmented by above normal rainfall during November which totaled 8 inches at Emory. The crest of 3.3 feet over flood stage at Emory occurred on the 1st from the October rains. The crest downstream of 5.1 feet over flood stage at Mineola on the 26 and 8.1 feet over flood stage at Gladewater on Dec. 1 were caused by heavy rains on the 24th which amounted to 4.5 inches at Emory. More than 1,000 acres were inundated along the upper Sabine below Emory with losses to crops and livestock. On the lower Sabine excessive rains of 5 to 7 inches for the month and releases from Toledo Bend Reservoir maintained near bankfull stages most of the month.	0	125
Neches River Basin	Monthly rainfall totals averaged about 8 inches over the upper portion of the basin causing the upper Neches to go over flood stage from Alto to Diboll, Texas. About 10,000 acres of low-lying cropland were inundated. Minor flooding occurred along Attoyac and Pine Island Bayous and the Angelina River. The lower Neches received about 7 inches of rainfall which, combined with releases from Dam B, caused stages slightly over bankfull the latter half of the month. No damage resulted.	0	10
Trinity River (Texas)	Flooding continued from October along the upper Trinity from Dallas to Trinidad and began at Long Lake on the 4th. This was in response to the rains of 4-9 inches Oct. 30-31 which also caused flooding on the East Fork and Chambers Creek tributaries. Flooding ended early in November at Dallas and Rosser with crests about 5 feet over flood stage on the 1st. Monthly rainfall totals ranged up to 12 inches over the upper basin prolonging the flooding at Trinidad and Long Lake into December and delaying the crest at Trinidad, more than 10 feet over flood stage, until the 25th. However, the crest downstream at Long Lake occurred on the 6th about 8 feet over flood stage. Reservoirs filled well into the flood storage allocation necessitating releases which combined with locally heavy rains to produce flooding with substantial property damage in Anderson and Freestone Counties. Ninety percent of the bottomland in this area was affected, amounting to more than 132,000 acres. Crop damage and livestock losses were extensive. Releases	0	4,500

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

NOVEMBER 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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WEST GULF OF MEXICO DRAINAGE-Continued

from Lake Livingston and rainfall totals of up to 13 inches caused flooding most of November along the lower Trinity from Liberty to Moss Bluff. Crests were 3 to 4 feet over flood stage.

Brazos River
Basin (Texas)

Estimated damage of \$279,000 was caused by flooding on tributaries of the Brazos River in Falls County during the first week of November. Rainfall totals ranged up to 5 inches for the period. Both urban and agricultural damage occurred. No stage reports are received from these small streams.

0

N.A.

Heavy thunderstorms on the night of the 23d deposited an estimated 6 to 7 inches of rain over the headwaters of the Little River. The resulting sharp rise crested 10 feet over flood stage at Cameron on the 26th.

The Navasota crested 3 feet over flood stage near Bryan on the 4th from heavy rains over the middle portion of the basin the last of October and up to 5 inches the first week of November, which extended the flood period until the 18th. Heavy thunderstorms the night of the 23d over the headwaters caused flooding of 2.5 to 3.5 feet along the entire length of the stream through the end of the month.

Colorado, Lavaca,
and Guadalupe
River Basins
(Texas)

Severe flash flooding took 13 lives the night of the 23d as a squall line which formed along the eastern edge of the Balcones Escarpment caused heavy thunder-showers from San Antonio to Austin and north to Belton. Rainfall amounts ranged up to the 10 inches reported in South Austin. All of the drownings were the result of cars being swept off low water crossings of small streams. Three people died on West Bouldin Creek in South Austin, six were killed on Dry Creek, and one on Cottonmouth Creek, both southeast of Austin. Two people died at Bunton near Kyle, and one person drowned on Young Creek near Cibolo in Guadalupe County. The flash flooding on Onion, Cottonmouth, and Dry Creeks inundated about 100 house trailers on the banks of the Colorado River in Austin with many of them destroyed. The inhabitants were rescued by boat and helicopter. Road and street damage in Travis County and Austin was estimated at \$130,000. However, the Colorado River main stem did not go over flood stage. This storm deposited an average of four inches of rainfall over the headwaters of the Navidad River in the Lavaca Basin, which crested 5.4 feet over flood stage on the 25th. A sharp rise also occurred on the San Marcos River as a result of this storm which caused heavy rainfall over the headwaters of the tributary streams of Purgatory Creek and the Blanco River. Flash flooding occurred in the city of San Marcos but adequate warnings minimized damage. A crest of 38 feet was unofficially reported on the San Marcos at the U.S.G.S. gage at Ottine near Palmetto State Park. There is no official Weather Service reporting observer there. This would be one of the highest stages of record at that gage. This heavy inflow from the San Marcos River caused flooding on the Guadalupe river with a crest 11.5 feet over flood

13

1,000

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

NOVEMBER 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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WEST GULF OF MEXICO DRAINAGE-Continued

stage at Gonzales near the mouth of the San Marcos. Downstream the flood wave flattened out with crest 4 to 7.5 feet over flood stage. Flooding continued into December at Dupont.

PUERTO RICO - VIRGIN ISLANDS

The stationary front which dominated the weather over the area the last ten days of October continued to generate sporadic heavy rainfall over Puerto Rico and the Virgin Islands during the first two weeks of November. Rainfall for the week ending Oct. 25 averaged 5.5 inches over Puerto Rico with a maximum weekly total of 17 inches at Pico del Este which included 8 inches in one day. For the week ending Nov. 1 rainfall averaged 2.5 inches over Puerto Rico with a maximum total of nearly 9 inches at Yabucoa and Maricao and a maximum daily amount of 6.3 inches at Corral Viejo just north of Ponce. Rainfall for the week ending on the 8th averaged 3.8 inches with maximum weekly totals of 10 inches and maximum daily amounts of about 4 inches. Rainfall over the Virgin Islands was 250 to 300 percent of normal during October.	11	14,000
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Preliminary estimates by Defense Civil Preparedness Administration of damage on Puerto Rico amounted to \$10 million with \$6 million to agriculture and \$4 million to roads and streets. Losses of \$8 million were reported by the San Juan Newspaper on St. Thomas Island and in the Fajardo area of Puerto Rico for the Nov. 12 storm. There were ten deaths on Puerto Rico. Additional flooding not discussed in the October report is as follows:

Additional flooding not discussed in the October Report is as follows:

Canas and
Portugese Rivers

Early on the morning of Nov. 1 heavy localized rain of 4 to 5 inches fell just west of Ponce in four hours. The ground was already saturated by the rains of Oct. 30-31. Flash flooding resulted in Ponce and on the coastal plain of the Canas and Portugese Rivers.

Yauco and
Guayanilla Rivers

Rainfall of 4 to 5 inches occurred over these river basins on the night of Nov. 2-3. Most of this rain ran off due to the saturated ground conditions with flash flooding on the coastal plains. The Yauco River gage was destroyed.

Fajardo River
Basin

On the night of the 11th-12th rains of 5 to 7 inches fell in 12 hours over the eastern end of the island with flooding along the Fajardo River. The U.S.G.S. gaging station was damaged. Losses were roughly estimated at \$4 million.

St. Thomas Island

The storm of Nov. 12 deposited 6 inches of rain in the town of Charlotte Amalie and 7 inches over the hills north of the town during a period of 7 hours from 2 to 9 a.m. With soils already saturated, runoff and erosion was heavy. Large amounts of topsoil were carried into the streets, blocking drains, and resulting in flooding of several tourist shops. There was

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

NOVEMBER 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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PUERTO RICO - VIRGIN ISLANDS-Continued

one death by electrocution and about 100 families were evacuated from their homes. There was several million dollars damage.

St. Croix Island	Rains of 4 to 5 inches fell both on the 5th and 8th. On the 12th amounts ranged up to 11 inches in 20 hours from 4 a.m. to midnight. Severe flooding occurred in low areas of the western portion of the island. A record stage of 13 feet with a peak discharge of 1,400 c.f.s. was reported at Golden Glove on the River Gut. The previous record was 10.5 feet with a discharge of 850 c.f.s.
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FLOOD STAGE DATA

(All dates in November unless otherwise specified)

NOVEMBER 1941

River and station	Flood stage	Above flood stages - dates		Crest	
		From--	To--	Stage	Date
<u>Upper Mississippi Basin</u>	<u>Ft.</u>			<u>Ft.</u>	
Iowa River					
Marshalltown, Iowa	19	Oct 31	1	13.14	Oct 31
<u>Missouri Basin</u>					
Wakarusa River:					
Lawrence, Kans.	23	3	3	#25.1	3
Blue River:					
Kirksville, Hannister Rd., Mo.	21	3	3	21.61	3
Grand River:					
Sumner, Mo.	26	1	1	29.15	1
Blackwater River:					
Valley City, Mo.	22	4	4	27.8	4
Blue Lick, Mo.	25	7	7	25.22	7
Pottawatomie Creek:					
Lawrence, Kans.	23	4	6	27.35	4
Marmaton River:					
St. Louis, Kans.	38	2	4	43.45	3
Marais Des Cygnes River:					
Osawatomie, Kans.	28	1	8	#32.4	5
Lacy, Kans.	25	3	8	29.05	7
State Line, Kans.	25	4	8	#28.07	5
<u>Ohio Basin</u>					
Little Wabash:					
Wilcox, Ill.	16	5	6	#16.3	5
<u>White Basin</u>					
Cache:					
Patterson, Ark.	7	12	17	8.3	27
White:					
Augusta, Ark.	26	13	18	27.2	15
		25	17	28.6	28
<u>Arkansas Basin</u>					
Walnut:					
Arkansas City, Kans.	18	4	4	18.35	4
Blackwell, Okla.	26	3	5	#32.6	3
Salt Fork:					
Yonkers, Okla.	17	3	6	#23.0	5
Black Bear Creek:					
Lawrence, Okla.	17	Oct 30	6	#26.84	4
Cimarron:					
Dover, Okla.	17	2	1	#20.65	4
Guthrie, Okla.	10	2	6	15.52	4
Polecat Creek:					
Napoleon, Okla.	1	Oct 31	1	26.90	3
Jenks, Okla.	614	3	1	619.55	4
Little Caney:					
Copan, Okla.	21	Oct 31	9	23.80	3
Caney:					
Bartlesville, Okla.	13	2	6	16.32	4
Ramona, Okla.	27	1	9	29.86	4
Bird Creek:					
Avant, Okla.	16	2	4	29.75	3
Sperry, Okla.	21	Oct 28	7	31.45	4
Sperry, Okla.	25	Oct 28	7	37.77	4
Verdigre:					
Altoona, Kans.	23	3	3	25.66	3
Independence, Kans.	30	1	6	40.0	4
<u>Arkansas Basin-Continued</u>					
Verdigre-Cont'd:					
Coffeyville, Kans.	18	3	7	21.9	
Lenapah, Okla.	4	2	8	35.0	
Catoosa, Okla.	545	3	6	556.27	
Spring:					
Quapaw, Okla.	20	3	7	26.41	
Neosho:					
Idola, Kans.	20	4	4	24.6	3-4
Chanute, Kans.	23	3	11	#24.33	
Parsons, Kans.	22	3	7	23.4	
Oswego, Kans.	17	2	8	24.85	
Commerce, Okla.	15	2	10	21.48	
Illinois:					
Tahlequash, Okla.	11	3	11	18.6	11
Little:					
Tecumseh, Okla.	11	3	3	11.6	
Deep Fork:					
Beggs, Okla.	18	Oct 31	17	30.38	
North Canadian:					
Seiling, Okla.	11	2	3	13.21	
Watonga, Okla.	7	3		#11.64	
Poteau:					
Poteau, Okla.	24	Oct 31	6	#26.10	
		18	4	27.50	
			18	28.25	11
Petit Jean Creek:					
Danville, Ark.	20	24	26	21.9	25
Fourche La Pave:					
Houston, Ark.	25	7	16	27.95	12
Arkansas:					
Arkansas City, Kans.	17	4	5	17.70	
Ponca City, Okla.	914	4	5	915.8	
Ralston, Okla.	16	4	6	19.40	
Ozark, Ark. (Lock 12 TM)	357	5	15	362.0	11
Dardanelle, Ark.	32	10	12	33.70	
Morrilton, Ark.	40	9	14	33.16	11
<u>Red River Basin</u>					
Blue:					
Blue, Okla.	21	Oct 31	3	#31.80	
		19	11	21.60	
Clear Boggy Creek:					
Caney, Okla.	19	Oct 31	6	#23.63	
		10	11	#19.90	10
Glover:					
Glover, Okla.	16	10	10	#17.05	
Sulphur:					
Hagansport, Tex.	44	Oct 31	5	50.2	
		10	14	47.7	11
		24	26	46.7	25
		30	2	46.9	Dec 1
Naples, Tex.	22	3	22	29.3	
		26	5	27.6	29
Little Missouri:					
Boughton, Ark.	2	26	26	20.17	26
Ouachita:					
Camden, Ark.	26		7	26.4	
		12	18	29.0	15
		25	17	32.7	Dec 3
Red:					
DeKalb, Tex.	24	4	8	24.7	

FLOOD STAGE DATA

(All dates in November unless otherwise specified)

NOVEMBER 1974

River and station	Flood stage	Above flood stages —dates		Crest	
		From	To	Stage	Date
	<i>Ft</i>			<i>Ft</i>	
WEST GULF OF MEXICO DRAINAGE					
Calcasieu:					
Houston, La.	17	14 20	17 20	13.32 14.42	15 22
Lake Fork:					
Wichita, Tex. (near)	16	1 24	4 28	#19.1 #19.6	2 7
Sabine:					
Emory, Tex.	17	Oct 31	1/	15.3	1
Mineola, Tex.	14	1	1/	19.1	26
Gladwater, Tex.	29	9	1/	34.1	Dec 1
Attoyac Bayou:					
Chireno, Tex. (near)	14	1 17	8 20	#15.3 #14.6	8 19
Angelina:					
Lufkin, Tex. (near)	8	2	1	#11.0	12
Frio Island Bayou:					
Sour Lake, Tex.	25	4	11	28.41	8
Neches:					
Alto, Tex. (near)	16	6	17	#17.2	9
Liberty, Tex. (near)	16	2 9	5 17	#11.7 #13.0	5 19
East Fork Trinity:					
Crandon, Tex.	14	1 11 16	5 13 17	#16.8 #15.4 #14.0	2 12 25
WEST GULF OF MEXICO DRAINAGE-Continued					
Waxahachie Creek:					
Corsicana, Tex. (near)	20	Oct 31	7	#26.1	1
Trinity:					
Dallas, Tex.	30	Oct 31	6	#35.1	1
Rosser, Tex.	26	Oct 31 11	8 15	#30.5 #29.2	1 14
Trinidad, Tex.	28	Oct 31	1/	#38.4	25
Long Lake, Tex.	35	4	1/	#43.1	6
Liberty, Tex.	24	8	1/	27.4	16
Moss Bluff, Tex.	4	Oct 30	1/	8.1	17
Little:					
Cameron, Tex.	30	25	26	40.0	26
Navasota:					
Easterly, Tex. (near)	14	24	30	17.6	26
Bryan, Tex. (near)	12	2 26	18 Dec 4	14.95 14.67	4 27
Navidad:					
Canado, Tex. (near)	21	24	1/	26.37	25
Guadalupe:					
Gonzales, Tex.	20	24	27	31.5	25
Cuero USGS, Tex.	20	26	30	24.1	28
Victoria, Tex.	21	26	30	27.55	29
Dupont, Tex.	20	24	1/	26.5	30-Dec 1

Average monthly values

NOVEMBER 1974

ALANY, NY 107 MB												ALBUQUERQUE, NM 940 MB												AMARILLO, TX 893 MB												ANCHORAGE, AK 994 MB												ANNETTE, AK 1307 MB											
Station/Pressure Surface wind		No. of observations		Dynamic height		Temperature		Dew Point		Direction		Speed, mph		No. of observations		Dynamic height		Temperature		Dew Point		Direction		Speed, mph		No. of observations		Dynamic height		Temperature		Dew Point		Direction		Speed, mph																							
400	86	2.3	-2	28	9	28	1.619	2.5	-3.1	03	1.6	30	1.495	3.6	-4	26	2.5	30	-5	-5.3	-8.5	01	4.2	30	17	3.5	1.2	15	4.0																														
1000	.66	1.5	-1.6	30	1.4																																																						
500	553	1.6	-2.4	28	4.7																																																						
900	989	1.2	-4.5	29	6.7																																																						
400	1.448	3	-6.5	29	7.3																																																						
700	1933	-1.4	-9.3	28	8.5	28	2.013	3.9	-6.8	31	2.8	30	1.496	7.0	-6.2	28	5.8	30	1.219	-4.9	-11.3																																						
750	2446	-3.1	-12.6	27	9.3	27	2.537	1.5	-10.0	30	5.4	30	2.520	3.1	-9.9	29	7.5	30	2.249	-7.1	-15.9	17	8.6	30	2.377	-8.6	-13.6	22	9.8																														
700	2990	-5.1	-15.8	27	10.4	27	3.098	-1.0	-14.9	30	7.7	30	3.075	-1.1	-14.0	28	8.4	30	2.773	-17.5	-16.0	12	9.0	30	2.909	-12.0	-17.1	21	9.9																														
850	3578	-7.7	-20.2	27	11.8	27	3.678	-4.3	-18.8	30	8.9	30	3.665	-3.2	-18.2	28	9.7	30	3.329	-21.1	-23.6	19	8.6	30	3.472	-15.7	-22.2	21	10.2																														
900	3789	-10.9	-27.7	27	13.7	27	4.306	-7.1	-24.2	29	10.8	30	4.295	-6.7	-22.6	28	11.3	30	3.920	-22.9	-28.4	20	8.2	30	4.072	-19.5	-16.6	21	10.6																														
500	4783	-14.9	-37.8	26	15.2	27	4.978	-11.6	-27.8	29	13.0	30	4.968	-11.3	-27.0	28	13.6	30	4.553	-27.0	-32.8	21	8.5	30	4.713	-23.8	-32.0	22	9.9																														
500	5567	-19.9	-34.3	26	16.3	27	5.702	-13.6	-31.9	29	14.6	30	5.692	-12.6	-32.4	28	14.9	30	5.233	-31.9	-37.3	22	8.4	30	5.402	-28.5	-34.8	22	12.7																														
400	6340	-25.2	-41.2	26	17.8	27	6.485	-22.0	-34.6	29	16.1	30	6.476	-21.9	-36.4	28	17.5	30	4.971	-36.8	-40.7	23	9.8	30	6.149	-34.0	-38.4	22	12.6																														
300	7185	-31.4	-41.2	27	20.5	27	7.34	-28.1	-41.4	28	18.3	30	7.332	-28.3	-41.2	28	20.2	30	6.777	-42.2	-39.3	24	11.3	30	6.944	-40.0	-39.9	22	14.1																														
350	8121	-37.9	-49.2	26	25.3	26	8.238	-35.1	-46.2	28	21.8	30	8.226	-35.7	-46.3	27	24.2	30	6.670	-48.1		25	12.0	30	7.886	-45.5	-44.1	23	15.1																														
300	9104	-45.1	-56.2	26	29.3	26	9.334	-42.7	-52.7	28	21.8	30	9.334	-42.7		27	24.2	30	6.670	-48.1		25	12.0	30	7.886	-45.5	-44.1	23	15.1																														
200	10363	-52.1	-60.7	27	30.7	26	10.564	-50.8		28	25.1	30	10.564	-50.6		27	28.3	30	9.838	-54.9		25	13.5	29	10.050	-53.7	24	16.0																															
200	11794	-52.1	-60.7	28	27.7	26	11.976	-58.1		28	26.5	30	11.976	-56.7		27	26.7	30	11.275	-51.9		25	12.3	29	11.485	-53.7	25	16.2																															
150	12641	-57.0	-65.2	27	28.7	27	12.233	-59.8		28	24.9	30	12.818	-58.7		27	25.8	30	12.142	-51.0		25	12.2	29	12.342	-53.9	25	15.4																															
150	134615	-48.1	-61.1	27	28.7	25	13.779	-62.4		28	21.6	30	13.780	-61.1		27	23.8	30	12.618	-51.0		25	12.3	29	12.342	-53.9	25	15.4																															
125	14758	-59.3	-67.7	27	29.2	25	14.879	-65.1		28	19.3	30	14.907	-63.1		27	20.7	29	14.331	-51.2		24	10.6	29	14.504	-54.0	25	13.1																															
100	16149	-61.1	-69.5	27	19.3	25	16.249	-67.4		28	16.2	29	16.270	-65.7		28	16.9	29	15.782	-51.4		24	10.2	28	15.934	-54.5	25	11.7																															
80	17531	-61.1	-69.5	27	14.8	25	17.598	-66.1		28	11.1	28	17.622	-65.1		27	12.1	29	17.231	-51.4		24	9.4	28	17.361	-54.8	25	10.1																															
60	18599	-61.1	-69.5	26	13.4	24	18.610	-66.1		28	8.5	28	18.638	-64.1		27	9.0	28	18.699	-51.8		24	8.4	28	18.825	-53.4	25	8.7																															
50	19315	-61.8	-67.7	26	11.1	24	19.349	-64.1		28	6.7	28	19.383	-63.5		27	6.8	28	19.444	-51.2		24	7.2	27	19.520	-53.9	25	7.9																															
50	20445	-61.4	-67.8	26	8.9	24	20.468	-63.3		28	6.8	26	20.505	-62.7		27	6.9	28	20.277	-52.4		24	7.1	24	20.373	-50.6	26	5.9																															
40	21833	-60.9	-67.8	27	6.4	24	21.864	-61.6		27	7.0	24	21.884	-61.2		27	8.5	27	21.722	-52.7		25	7.0	22	21.784	-50.5	25	4.8																															
20	23627	-59.3	-67.7	27	4.8	21	23.637	-59.2		26	9.3	23	23.679	-59.4		27	9.8	23	23.591	-53.4		26	4.2	17	23.600	-56.4	29	2.4																															
20	24777	-58.6	-67.7	27	7.0	21	24.781	-58.4		26	10.4	21	24.831	-58.0		27	11.2	22	24.747	-53.6		27	2.9	24	24.757	-56.8	33	1.3																															
20	26174	-57.6	-67.8	28	5.1	17	26.191	-57.4		27	12.3	17	26.218	-56.2		27	12.6	20	26.080	-53.3		31	2.6	9	26.161	-55.9																																	
15	21797	-56.1	-67.8	28	7.5	18	28.020	-54.9		28	14.1	18	28.086	-54.5		27	12.6	20	28.080	-53.3		31	2.6	5	28.021	-53.6																																	
10	30584	-53.6	-67.7	27	12.7						8	30.696	-51.7																																														
7																																																											

ATHENS, GA 991 MB										BARROW, AK 1011 MB										BARTER ISLAND, AK 1010 MB										RETHEL, AK 997 MB										BISHARCK, ND 957 MB									
9FC	30	246	6.3	5.3	28	47	30	-22.0	-25.6	05	6	30	15	-23.9	-26.6	24	2.3	30	39	-11.6	-15.3	03	2.3	30	503	-3.9	-5.9	33	1.4																				
1000							23	123	-23.1	-24.4	03	2.6	24	110	-24.4	-26.8	26	3.4	10	88	-10.6	-12.0																											
950	30	595	9.8		0.27	3.1	40	463	-19.8	-21.2	05	2.2	30	461	-19.9	-22.4	26	2.9	30	409	-9.7	-12.0	04	2.6	26	571	-3.4	-5.5	32	2.4																			
900	30	1744	8.6	-7.6	2.7	4.5	40	865	-19.6	-21.6	03	1.9	30	863	-19.4	-22.4	25	1.2	30	828	-8.9	-13.4	05	3.8	30	988	-8.8	-6.9	31	4.2																			
850	30	1515	6.9	-5.7	2.7	4.4	40	1289	-20.1	-22.6	02	2.1	30	1288	-19.5	-22.9	25	4.6	1270	-9.9	-13.9	21	3.8	30	1444	-1.7	-10.5	31	5.8																				
800	30	2012	6.3	-10.3	2.7	6.4	40	1737	-18.8	-24.0	02	2.6	30	1738	-18.3	-24.0	24	4.6	1717	-11.5	-20.4	24	1.6	30	1925	-3.2	-13.6	31	1.3																				
750	30	2537	3.3	-13.3	2.7	9.4	40	2714	-22.4	-27.3	02	2.0	30	2716	-21.7	-25.2	25	4.9	2722	-23.4	-28.4	24	1.8	30	2935	-3.2	-16.3	31	9.2																				
700	30	3094		-16.8	2.6	11.0	40	2718	-24.9	-30.3	36	2.3	30	2722	-23.6	-27.8	24	2.9	2750	-17.0	-26.1	24	2.5	30	2975	-7.6	-19.5	31	9.2																				
650	30	3686	-2.1	-19.4	2.6	17.6	40	3254	-27.7	-33.8	34	1.8	30	3261	-26.1	-30.3	24	5.4	3303	-20.3	-29.6	25	3.1	30	3548	-10.7	-22.2	31	9.7																				
600	30	4318	-5.7	-20.7	2.6	13.7	40	3825	-31.1	-37.7	33	1.8	30	3837	-29.9	-33.7	24	7.8	3891	-24.1	-32.8	26	3.8	30	4160	-14.0	-23.5	31	10.0																				
550	30	4995	-9.7	-24.6	2.6	18.4	40	4438	-34.7	-40.2	30	2.1	30	4455	-32.5	-37.6	24	9.4	4521	-28.1	-36.2	26	4.7	30	4819	-18.4	-29.1	31	11.2																				
500	30	5724	-14.3	-31.0	2.6	18.2	40	5178	-42.2	-49.0	28	2.8	30	5212	-36.6	-40.7	24	11.3	5291	-32.5	-39.6	26	5.8	30	5525	-12.9	-37.7	31	12.4																				
450	30	6555	-19.8	-34.3	2.6	20.7	40	5814	-43.3	-45.3	27	4.7	30	5876	-40.0	-40.0	24	13.1	5934	-42.3	-45.3	25	7.7	30	6262	-24.2	-37.7	31	12.9																				
400	30	7378	-26.1	-38.1	2.6	22.6	40	6599	-47.8		27	4.9	30	6737	-45.8		24	14.6	6738	-42.7	-45.1	25	8.8	30	7115	-34.9	-42.1	31	14.0																				
350	30	8233	-33.2	-44.4	2.6	25.4	40	7475	-51.6		26	5.9	30	7620	-50.6		24	14.9	7631	-48.3		25	9.1	30	8036	-41.7	-44.5	31	15.7																				
300	30	9394	-41.8	-47.4	2.6	27.6	40	8466	-53.8		26	6.3	30	8513	-54.3		24	15.8	8631	-53.9		25	9.2	30	9064	-48.0		31	17.6																				
250	30	10606	-50.7		2.6	30.4	40	9460	-52.3		25	7.6	30	9683	-52.8		24	14.4	9797	-54.8		25	9.3	30	10250	-53.4		31	17.4																				
200	30	11430	-50.4		2.6	30.4	40	10091	-50.4		24	7.7	30	11133	-50.3		24	11.3	11282	-52.4		26	9.0	30	11678	-48.1		31	17.4																				
150	30	12869	-60.4		2.6	31.3	40	11963	-50.2		25	8.2	30	12005	-50.0		24	12.4	12098	-51.7		25	10.3	30	12526	-50.0		31	17.3																				
100	30	13823	-63.3		2.6	28.1	30	124970	-50.2		24	8.5	30	13014	-49.9		24	11.5	13098	-51.4		25	9.3	30	13507	-50.3		31	14.8																				
125	30	14938	-65.6		2.6	24.4	30	144161	-50.4		25	9.0	30	1427	-50.0		24	11.8	14283	-50.9		24	9.2	30	14661	-57.6		29	14.5																				
100	30	16288	-67.7		2.6	17.7	29	154609	-50.5		24	10.5	30	15665	-50.1		25	11.4	15736	-51.0		25	8.7	30	16068	-58.2		29	11.4																				
80	28	17642	-67.0		2.6	14.2	29	176062	-51.2		24	10.9	28	17117	-50.6		24	11.2	17188	-50.9		24	8.1	30	17469	-58.8		29	8.7																				
60	28	18451	-65.7		2.6	11.2	29	17930	-51.2		24	10.9	28	17907	-51.1		25	11.3	18058	-51.0		24	8.4	30	18305	-59.3		29	8.7																				
40	27	19394	-64.8		2.6	11.1	29	18494	-51.2		24	11.1	29	18498	-51.0		25	11.3	18592	-51.0		24	8.2	30	18627	-60.2		29	6.2																				
20	27	20516	-62.7		2.7	8.2	26	20125	-51.9		24	10.8	29	20172	-51.8		25	11.3	20244	-51.3		25	7.6	29	20411	-60.4		30	4.9																				
50	27	21897	-61.1		2.7	9.4	23	21193	-51.1		24	10.7	28	21620	-51.8		25	11.3	21694	-51.5		25	7.1	24	21803	-53.9		30	3.3																				
30	27	23694	-58.9		28	10.3	17	23463	-51.1		24	9.1	27	23483	-52.3		26	10.5	23501	-51.9		26	6.8	24	23605	-59.2		33	2.3																				
25	27	24843	-57.1		27	11.2	8	24654	-50.5					27	24662	-52.4		26	10.7	24743	-51.8		27	5.7	23	24752	-55.5		34	2.5																			
20	27	26262	-55.1		18	13.1			-55.1				22	26105	-51.7		26	10.1	26118	-51.9		29	6.3	21	26183	-57.7		33	2.3																				
15	27	28111	-54.5		17	11.8	8	27993	-51.6				27	28106	-51.6		27	12.3	28173	-51.6		32	5.6	14	27981	-59.1		02	4.8																				
10	17	30735	-58.1		26	22.2							19	30679	-51.7				30714	-54.3																													

		BOISE, ID					BOOTHVILLE, LA					BROWNSVILLE, TX					BUFFALO, NY					CAPE MATTERAS, NC									
		919 MB					1019 MB					1017 MB					990.48					1019 MB									
KFC	30	871	3.2	-1.7	1.2	1.6	29	151	17.2	11.9	0.9	1.2	30	7	16.1	13.5	30	7	218	3.6	5.22	1.7	30	4	11.4	8.4	32	2.4			
1000							29	165	17.2	8.9	0.9	1.2	30	150	18.5	15.6	16	1.0						3	162	19.3	5.3	31	3.6		
950							29	601	14.8	8.6	1.5	2.1	30	590	16.9	13.7	16	4.8	30	551	3.1	-6.5	25	4.8	30	591	12.0	3.3	29	5.5	
900	30	1,041	4.9	-2.2	1.2	1.4	29	1,058	13.1	3.4	2.0	2.7	30	1,051	14.9	9.5	18	5.3	30	988	1.5	-4.5	26	7.3	30	1,039	7.8	-9.2	28	7.3	
850	30	1,507	3.9	-4.8	1.8	1.2	29	1,538	11.3	1.7	2.5	4.0	30	1,534	12.8	5.1	19	5.3	30	1,448	-1.1	-7.4	26	7.9	30	1,510	0.6	-6.6	28	-6.3	
800	30	1,998	1.7	-7.1	2.5	3.1	29	2,043	9.4	-3.2	2.6	5.5	30	2,042	11.3	-2.2	4.0	30	1,932	-1.7	-11.0	27	8.7	30	2,006	4.8	-8.8	27	8.4		
750	30	2,516	3.0	-10.5	2.7	5.7	29	2,576	7.7	-7.5	1.7	8.3	30	2,580	9.2	-6.9	2.6	30	2,446	-13.5	-13.5	27	9.3	30	2,493	12.8	-12.8	27	9.3		
700	30	3,005	-3.6	-15.4	4.7	7.3	29	3,141	4.7	-11.4	1.7	8.3	30	3,148	6.6	-10.1	2.5	4.0	30	2,987	-6.1	-17.7	27	10.4	30	3,087	0.7	-16.8	27	11.5	
650	30	3,646	-6.8	-17.0	7.7	8.2	28	3,741	1.3	-14.4	2.6	9.7	30	3,752	2.5	-13.9	2.8	4.8	30	3,564	-8.7	-20.5	27	11.5	30	3,679	-2.2	-20.5	27	12.6	
600	30	4,267	-10.5	-21.0	9.7	9.2	28	4,381	-2.6	-18.3	2.6	10.6	30	4,394	-1.2	-17.7	2.8	8.1	30	4,181	-12.3	-24.2	27	12.7	30	4,311	-5.5	-23.9	27	12.7	
550	30	4,931	-14.9	-24.8	10.8	10.8	28	5,005	-6.9	-22.9	2.6	11.7	30	5,083	-5.4	-22.9	27	6.8	30	4,841	-16.1	-28.8	27	14.5	30	4,988	-9.4	-27.0	26	14.5	
500	30	5,645	-19.7	-28.8	12.8	12.8	28	5,802	-11.7	-27.4	2.6	13.3	30	5,823	-10.6	-27.7	2.6	6.3	30	5,552	-20.9	-32.5	26	15.8	30	5,717	-14.7	-30.3	26	16.8	
450	30	6,416	-25.2	-33.6	14.4	14.4	28	6,601	-16.2	-32.2	2.6	14.8	30	6,630	-11.5	-31.5	2.6	10.8	30	6,322	-36.9	-36.9	26	17.9	30	6,502	-20.2	-33.1	26	18.8	
400	30	7,264	-31.3	-39.9	15.8	15.8	28	7,472	-23.7	-37.3	2.6	16.3	30	7,501	-22.5	-36.9	2.6	13.0	30	7,162	-32.7	-40.5	26	21.1	29	7,366	-28.3	-40.4	26	23.4	
350	30	8,198	-38.2	-44.2	18	17.2	28	8,436	-31.1	-43.3	2.6	18.8	30	8,470	-29.6	-42.5	2.6	15.6	30	8,093	-39.1	-44.2	26	23.7	29	8,319	-33.1	-46.1	26	26.3	
300	30	9,240	-45.9				29	9,512	-39.3	-48.7	2.6	21.1	30	9,547	-38.3	-48.3	2.6	19.3	30	9,133	-45.6		26	26.0	29	9,383	-40.9	-51.7	27	28.2	
250	30	10,432	-53.7				29	10,736	-48.7			26	25.0	10,781	-67.5		27	22.9	30	10,331	-51.7		27	26.5	29	10,601	-49.2		27	30.4	
200	30	11,846	-58.4				29	12,171	-58.2			26	28.4	12,220	-58.0		26	26.9	30	11,778	-55.6		28	28.5	29	12,058	-55.6		27	31.7	
150	30	12,689	-59.3				29	12,941	-62.4			26	29.7	13,052	-59.3		26	25.0	30	12,613	-56.2		28	27.9	29	12,890	-59.9		27	34.1	
100	30	13,650	-59.2				29	13,968	-65.5			26	28.7	13,989	-67.7		26	22.1	30	13,590	-57.4		27	22.9	28	13,833	-59.9		27	37.4	
125	30	14,788	-60.9				29	15,052	-68.5			26	23.1	15,080	-69.5		26	18.1	30	14,739	-58.7		27	19.8	28	14,986	-60.4		27	40.4	
100	30	16,167	-63.0				28	16,380	-70.8			26	19.1	16,403	-72.4		26	13.5	30	16,133	-60.9		27	16.5	27	16,322	-63.6		27	44.7	
80	30	17,543	-62.8				29	17,701	-70.8			26	11.0	17,710	-72.5		26	8.3	29	17,320	-61.4		27	13.6	27	17,673	-63.7		27	48.8	
70	30	18,369	-61.6				29	18,449	-68.0			26	7.6	18,451	-69.7		26	8.3	29	17,962	-61.1		27	14.2	27	18,315	-63.7		27	51.8	
60	30	19,932	-62.1				29	19,932	-62.5			26	5.5	19,930	-65.3		26	4.5	29	19,330	-60.9		27	14.2	27	19,632	-63.6		27	53.4	
50	30	20,449	-62.1				29	20,559	-61.6			26	5.2	20,550	-61.8		26	1.5	29	20,441	-60.6		27	7.9	27	20,554	-62.3		27	59.9	
40	30	21,834	-61.3				31	3.9	21,968	-60.0		26	7.1	21,940	-59.4		23	2.3	28	21,829	-60.3		28	5.9	26	21,918	-60.9		27	6.5	
30	30	23,624	-60.2				30	3.1	23,753	-58.0		28	9.9	23,757	-55.1		27	5.3	26	23,530	-58.9		28	4.5	26	23,742	-58.4		27	9.6	
25	30	24,767	-58.9				28	2.1	24,900	-56.4		27	12.2	24,920	-56.0		29	4.9	25	24,779	-58.0		29	4.3	26	24,909	-58.2		27	11.1	
20	30	26,171	-57.9				35	2.1	26,325	-54.1		27	13.7	26,325	-51.3		27	11.8	26	26,171	-56.6		30	5.3	26	26,302	-56.6		27	12.7	
15	30	27,993	-55.8				35	3.4	28,158	-51.3		27	17.2	28,218	-48.5		27	11.8	20	28,032	-54.7		30	5.3	17	28,195	-51.6		27	14.4	
10	30	29,598					11	30,813	-57.7			9	30,880	-54.5						18	29,623	-52.7				29	30,837	-48.6			

Average monthly values

NOVEMBER 1974

- 24

Average monthly values

RECEIVED 1974

JACKSON, MS
1009 MB

KOROR, CAROLINE IS.
1968 MA

Average monthly values

NOVEMBER 1974

24

Average monthly values

NO. 1442 : 14

RAWINSONDE DATA

Average monthly values

NOVEMBER 1974

SALT LAKE CITY, UT 875 MB										SAN DIEGO, CA 1002 MB										SAN JUAN, P. R. 1013 MB										SAULT STE MARIE, MI 988 MB										SHREVEPORT, LA 1011 MB									
Resultant Wind										Resultant Wind										Resultant Wind										Resultant Wind										Resultant Wind									
No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed (m.p.h.)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed (m.p.h.)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed (m.p.h.)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed (m.p.h.)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed (m.p.h.)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed (m.p.h.)	No. of observations	Dynamic height	Temperature	Dew Point	Direction	Speed (m.p.h.)								
5FC 30	1.288	2.8	-2.1	16	2.9	30	124	11.6	7.0	08	.8	30	124	11.6	7.0	08	.8	30	124	11.6	7.0	08	.8	30	124	11.6	7.0	08	.8	30	124	11.6	7.0	08	.8	30	124	11.6	7.0	08	.8								
1000						26	142	14.0	5.2	07	.7	30	117	14.2	5.2	07	.7	30	117	14.2	5.2	07	.7	30	117	14.2	5.2	07	.7	30	117	14.2	5.2	07	.7	30	117	14.2	5.2	07	.7								
950						26	142	14.0	5.2	07	.7	30	117	14.2	5.2	07	.7	30	117	14.2	5.2	07	.7	30	117	14.2	5.2	07	.7	30	117	14.2	5.2	07	.7	30	117	14.2	5.2	07	.7								
900						26	142	14.0	5.2	07	.7	30	117	14.2	5.2	07	.7	30	117	14.2	5.2	07	.7	30	117	14.2	5.2	07	.7	30	117	14.2	5.2	07	.7	30	117	14.2	5.2	07	.7								
850	30	1.522	4.4	-4.7	18	3.6	30	1.510	12.4	-6.3	26	1.0	30	1.524	16.0	11.5	10	6.0	30	1.419	-2.6	-10.2	26	4.5	30	1.419	-2.6	-10.2	26	4.5	30	1.419	-2.6	-10.2	26	4.5	30	1.419	-2.6	-10.2	26	4.5							
800	30	2.014	2.2	-7.5	19	4.0	30	2.015	9.6	-9.2	28	1.8	30	2.038	13.4	8.4	10	5.0	30	1.899	-3.9	-14.4	26	5.1	30	1.899	-3.9	-14.4	26	5.1	30	1.899	-3.9	-14.4	26	5.1	30	1.899	-3.9	-14.4	26	5.1							
750	30	2.532	-1.0	-10.9	24	3.2	30	2.548	7.0	-12.4	30	2.8	30	2.580	11.1	1.9	10	4.1	30	2.406	-5.8	-17.3	26	6.0	30	2.406	-5.8	-17.3	26	6.0	30	2.406	-5.8	-17.3	26	6.0	30	2.406	-5.8	-17.3	26	6.0							
700	30	3.079	-4.1	-14.1	27	5.4	30	3.112	4.9	-16.2	30	4.9	30	3.153	7.9	1.4	10	3.3	30	2.945	-8.3	-19.7	26	6.0	30	2.945	-8.3	-19.7	26	6.0	30	2.945	-8.3	-19.7	26	6.0	30	2.945	-8.3	-19.7	26	6.0							
650	30	3.661	-7.1	-17.2	29	7.2	30	3.713	1.5	-18.8	30	6.7	30	3.761	4.4	-3.2	13	1.7	30	3.517	-11.1	-21.1	26	8.0	30	3.517	-11.1	-21.1	26	8.0	30	3.517	-11.1	-21.1	26	8.0	30	3.517	-11.1	-21.1	26	8.0							
600	30	4.281	-10.5	-21.7	30	8.4	30	4.352	-2.7	-22.5	30	8.2	30	4.408	-7.7	-27.7	15	4.9	30	4.128	-14.6	-24.0	26	8.9	30	4.128	-14.6	-24.0	26	8.9	30	4.128	-14.6	-24.0	26	8.9	30	4.128	-14.6	-24.0	26	8.9							
550	30	4.945	-14.8	-25.8	30	9.9	30	5.036	-7.7	-25.9	30	9.6	30	5.103	-3.2	-12.5	24	1.2	30	4.782	-18.5	-28.6	26	9.4	30	4.782	-18.5	-28.6	26	9.4	30	4.782	-18.5	-28.6	26	9.4	30	4.782	-18.5	-28.6	26	9.4							
500	30	5.660	-19.7	-29.9	29	11.2	30	5.769	-13.0	-30.5	30	11.7	30	5.853	-7.2	-19.7	23	2.3	30	5.486	-23.3	-33.3	26	10.4	30	5.486	-23.3	-33.3	26	10.4	30	5.486	-23.3	-33.3	26	10.4	30	5.486	-23.3	-33.3	26	10.4							
450	30	6.345	-24.9	-35.7	30	13.2	30	6.564	-18.8	-34.2	29	12.6	30	6.667	-11.7	-24.6	23	2.9	30	6.249	-28.8	-38.5	27	10.4	30	6.249	-28.8	-38.5	27	10.4	30	6.249	-28.8	-38.5	27	10.4	30	6.249	-28.8	-38.5	27	10.4							
400	30	7.281	-31.2	-41.7	30	14.8	30	7.429	-25.7	-41.9	29	14.2	30	7.560	-17.3	-31.5	25	3.3	30	7.082	-35.1	-43.2	27	12.0	30	7.082	-35.1	-43.2	27	12.0	30	7.082	-35.1	-43.2	27	12.0	30	7.082	-35.1	-43.2	27	12.0							
350	30	8.216	-37.9	-45.0	30	16.5	30	8.386	-32.9	-45.3	29	16.9	30	8.548	-24.5	-38.2	26	4.8	30	8.003	-41.4	-46.8	27	14.8	30	8.003	-41.4	-46.8	27	14.8	30	8.003	-41.4	-46.8	27	14.8	30	8.003	-41.4	-46.8	27	14.8							
300	30	9.259	-45.7		30	18.3	30	9.450	-40.9	-50.4	29	19.4	30	9.648	-33.3	-46.6	27	7.7	30	9.032	-47.8		26	18.3	30	9.032	-47.8		26	18.3	30	9.032	-47.8		26	18.3	30	9.032	-47.8		26	18.3							
250	30	10.452	-53.2		29	20.6	30	10.674	-49.5		28	21.6	30	10.903	-43.5		27	11.3	30	10.221	-53.0		27	21.3	30	10.221	-53.0		27	21.3	30	10.221	-53.0		27	21.3	30	10.221	-53.0		27	21.3							
200	30	11.872	-58.4		29	22.4	30	12.103	-58.9		27	20.8	30	12.364	-55.5		27	15.2	30	11.652	-55.2		27	21.3	30	11.652	-55.2		27	21.3	30	11.652	-55.2		27	21.3	30	11.652	-55.2		27	21.3							
175	30	12.711	-59.0		29	22.2	30	12.932	-63.0		27	21.2	30	13.203	-61.8		27	16.7	30	12.505	-55.2		27	19.1	30	12.505	-55.2		27	19.1	30	12.505	-55.2		27	19.1	30	12.505	-55.2		27	19.1							
150	30	13.676	-60.0		29	19.8	30	13.877	-65.0		27	19.6	30	14.142	-68.4		28	15.4	30	13.489	-55.8		27	18.3	30	13.489	-55.8		27	18.3	30	13.489	-55.8		27	18.3	30	13.489	-55.8		27	18.3							
125	30	14.613	-62.1		29	18.2	30	14.985	-66.7		28	17.6	30	15.220	-73.8		28	11.2	30	14.463	-57.5		27	15.6	30	14.463	-57.5		27	15.6	30	14.463	-57.5		27	15.6	30	14.463	-57.5		27	15.6							
100	30	16.185	-64.2		29	14.5	30	16.516	-68.9		28	13.5	30	16.811	-77.3		28	5.6	30	16.049	-58.8		27	12.3	30	16.049	-58.8		27	12.3	30	16.049	-58.8		27	12.3	30	16.049	-58.8		27	12.3							
80	30	17.552	-64.2		29	10.6	30	17.663	-68.1		28	9.3	30	17.784	-77.8		33	1.3	30	17.447	-59.1		28	10.0	30	17.447	-59.1		28	10.0	30	17.447	-59.1		28	10.0	30	17.447	-59.1		28	10.0							
70	30	18.371	-63.8		29	8.7	30	18.467	-66.9		28	7.3	30	18.561	-71.9		06	2.6	30	18.284	-59.6		28	8.0	30	18.284	-59.6		28	8.0	30	18.284	-59.6		28	8.0	30	18.284	-59.6		28	8.0							
60	30	19.317	-63.5		29	6.4	30	19.403	-65.3		29	6.2	30	19.480	-67.1		08	4.5	30	19.249	-60.2		28	7.2	30	19.249	-60.2		28	7.2	30	19.249	-60.2		28	7.2	30	19.249	-60.2		28	7.2							
50	30	20.438	-63.0		29	5.8	30	20.516	-63.6		28	5.3	30	20.595	-62.5		09	6.0	30	20.386	-60.1		28	6.2	30	20.386	-60.1		28	6.2	30	20.386	-60.1		28	6.2	30	20.386	-60.1		28	6.2							
40	30	21.814	-61.4		29	5.1	30	21.891	-61.6		28	4.7	30	21.968	-59.2		09	8.8	30	21.780	-59.8		29	4.1	30	21.780	-59.8		29	4.1	30	21.780	-59.8		29	4.1	30	21.780	-59.8		29	4.1							
30	30	23.000	-60.7		29	3.7	30	23.084	-58.8		27	2.5	30	23.089	-54.9		09	11.5	30	23.580	-58.5		29	2.2	30	23.580	-58.5		29	2.2	30	23.580	-58.5		29	2.2	30	23.580	-58.5		29	2.2							
25	30	24.738	-59.6		29	2.4	30	24.830	-58.0		27	1.2	30	24.988	-51.6		09	11.4	30	24.731	-57.8		29	2.1	30	24.731	-57.8		29	2.1	30	24.731	-57.8		29	2.1	30	24.731	-57.8		29	2.1							
20	30	26.131	-58.1		29	3.8	30	26.241	-55.8		27	12.0	30	26.407	-50.1		10	6.3	30	26.191	-56.9		29	2.4	30	26.191	-56.9		29	2.4	30	26.191	-56.9		29	2.4	30	26.191	-56.9		29	2.4							
15	30	27.941	-56.3		29	3.9	30	28.077	-54.0		28	16.6	30	28.323	-47.8		10	6.3	30	27.969	-56.1		33	3.0	30	27.969	-56.1		33	3.0	30	27.969	-56.1		33	3.0	30	27.969	-56.1		33	3.0							
10	30	30.516	-53.7		29	10	30	30.704	-51.0		28	11	30	31.018	-42.1		14	30	30.546	-53.3		33	3.0	30	30.546	-53.3		33	3.0	30	30.546	-53.3		33	3.0	30	30.546	-53.3		33	3.0								

Average monthly values

NOVEMBER 1974

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SOLAR RADIATION INTENSITIES

Tabulated in langley's per minute on a surface normal to the direction of the sun.

NOVEMBER 1974

Sun's zenith distance										Sun's zenith distance											
A M					*	P M					A M					*	P M				
78.7°	75.7°	70.7°	60.0°	60.0°		70.7°	75.7°	78.7°	78.7°	75.7°	70.7°	60.0°	60.0°	70.7°	75.7°		78.7°				
ALBUQUERQUE, N. MEX.										MALIBU, WIS.											
Air mass										Air mass											
4.19	3.35	2.51	1.67		1.67	2.51	3.35	4.19		4.69	3.75	2.81	1.88		1.88	2.81	3.75	4.69			
NO DATA RECEIVED										NO DATA RECEIVED											
MAUNA LOA, HI.										TUCSON, ARIZ.											
Air mass										Air mass											
1.16	2.49	2.91	1.34	*	1.34	2.01	2.49	3.36		4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56			
1.27	1.36	1.44	1.54	----	----	----	----	----	1.95	1.06	1.16	1.34	1.44	----	----	1.07	.98				
1.27	1.35	1.43	1.54	1.62	----	----	----	----	2.00	1.10	1.20	1.33	1.41	----	----	1.07	.98				
1.19	1.30	1.41	1.54	1.65	1.52	1.39	1.26	1.19	3.00	.91	1.05	1.23	1.28	1.25	----	----	----	----			
1.18	1.25	1.36	1.49	1.60	1.42	1.24	1.08		4.00	.91	1.02	1.12	1.33	1.41	1.32	1.19	1.04	----			
1.25	1.30	1.41	1.60	----	----	1.34	1.24	1.14	5.00	1.00	1.00	1.00	1.41	1.41	1.41	1.41	1.41	1.41	----		
1.25	1.34	1.42	1.53	1.61	----	----	----	----	6.00	.70	.80	.94	1.22	1.37	1.24	1.05	.90	.79			
1.24	1.32	1.41	1.51	1.62	----	1.37	1.27	1.17	7.00	.83	.92	1.06	1.26	1.36	1.24	1.06	----	----			
1.14	1.22	1.30	----	----	----	----	----	----	8.00	1.00	1.00	1.00	1.23	1.36	1.24	1.02	.91	.81			
1.11	1.28	1.40	1.54	1.64	1.54	1.44	1.34	1.24	9.00	.86	.99	1.11	1.29	1.39	1.28	1.12	1.01	.91			
1.22	1.30	1.40	1.52	1.60	1.49	1.34	1.24	1.16	10.00	.93	1.03	1.17	1.34	1.43	1.36	1.16	1.05	.96			
1.25	1.32	1.43	1.50	1.61	1.49	1.34	1.24	1.16	11.00	1.03	1.12	1.22	1.39	1.46	1.38	1.16	1.05	.96			
1.19	1.27	1.38	1.50	1.58	1.47	1.34	1.24	1.16	12.00	1.07	1.17	1.24	1.36	1.43	1.36	1.16	1.05	.96			
1.23	1.33	1.40	1.51	1.61	1.49	1.34	1.24	1.16	13.00	.99	1.08	1.20	1.35	1.43	1.36	1.16	1.05	.96			
1.18	1.29	1.40	1.51	1.61	1.49	1.34	1.24	1.16	14.00	.96	1.06	1.17	1.34	1.43	1.36	1.16	1.05	.96			
1.21	1.31	1.42	1.53	1.63	1.51	1.39	1.29	1.19	15.00	.80	.93	1.06	1.22	1.31	1.22	1.09	.97	.85			
1.19	1.27	1.36	1.48	1.57	1.47	1.34	1.24	1.16	16.00	.82	.97	1.08	1.25	1.34	1.25	1.09	.97	.85			
1.20	1.24	1.37	1.49	1.59	1.49	1.34	1.24	1.16	17.00	.73	.88	1.06	1.23	1.37	1.29	1.14	1.02	.89			
1.19	1.28	1.37	1.49	1.60	1.34	1.24	1.16	1.16	18.00	1.00	1.08	1.19	1.36	1.40	1.35	1.16	1.02	.91			
1.29	1.35	1.44	1.55	1.62	1.49	1.34	1.24	1.16	19.00	.86	.96	1.07	1.24	1.36	1.29	1.18	1.06	.98			
Averages	1.22	1.29	1.39	1.51	1.60	1.46	1.35	1.25	20.00	1.05	1.13	1.25	1.38	1.42	1.37	1.19	1.09	.99			
OAHUA, NEBR.										21.00	1.08	1.19	1.31	1.43	1.50	1.42	1.23	1.12	1.01		
Air mass										22.00	1.03	1.11	1.24	1.41	1.46	1.37	1.22	1.09	1.01		
4.71	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78	23.00	1.06	1.14	1.27	1.40	1.44	1.40	1.24	1.11	.99			
NO DATA RECEIVED										24.00	.98	1.08	1.22	1.36	1.44	1.34	1.17	1.06	.97		
										Averages	.93	1.02	1.15	1.32	1.39	1.29	1.11	1.00	.89		
										# Volcanic Dust Layer at about 16 KM.											

NET RADIATION

Net radiation in langleya per day (8 a.m. to 8 a.m.) at Palmer, Alaska.

NOVEMBER 1974

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleya. . .	-28	-7	-18	-8	-7	-42	-62	-59	-45	-44	-13	-89	-30	-26	-92	-87	-93	-91	-85	-44	-38	-67	-59	-32	-34	-31	-29	-63	-49	-27	-46	

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average ($\lambda < 3900 \text{ \AA}$) at Ames, Iowa.

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleya. . .																																

NO DATA REQUIRED

TOTAL OZONE DATA

These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code 's d z z' defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units Milli-atmo-cms.

Day of month

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean O3
---------	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	---------

NO DATA REQUIRED

REFERENCE NOTES

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES:

Dates in the table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

+ And also on an earlier date or dates.

D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch of water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA -- METRIC UNITS: Data from airport unless otherwise specified.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile data can be evaluated.

B Number of days maximum 21.1°C. or above for Alaskan Stations.

Y Peak Gust.

+ And also on an earlier date or dates.

U Indicates Urban site.

R Indicates Rural site.

Ø Station pressures apply to elevations shown in the "Elevations" table of the annual issue of this publication.

Conversion formulae to English Units are as follows:

1 foot = 0.3048 meters

°F. = $9 \times ^\circ\text{C} + 32$

$\frac{5}{9}$

1 inch = 25.4 millimeters

1 mile per hour = 0.447 meters per second

HEATING DEGREE DAYS: Data from airport unless otherwise specified.

U Indicates Urban site.

R Indicates Rural site.

COOLING DEGREE DAYS: Data from airport unless otherwise specified.

U Indicates Urban site.

R Indicates Rural site.

STORM SUMMARY:

° Includes crop damage.

C Crop damage.

* No occurrence of storms or unusual weather phenomena reported.

@ Includes heavy sleet storm.

Freezing drizzle and freezing rain, commonly known as glaze.

Ø For breakdown of "All Others," and for detailed listing of other storms, see the Environmental Data Service, NOAA, monthly publication STORM DATA.

+ No Storm Data Report received for this State.

◇ Report Incomplete.

† Storm damages are placed in categories varying from 1 to 9 as follows:

1 Less than \$50

2 \$50 to \$500

3 \$500 to \$5,000

4 \$5,000 to \$50,000

5 \$50,000 to \$500,000

6 \$500,000 to \$5 Million

7 \$5 Million to \$50 Million

8 \$50 Million to \$500 Million

9 \$500 Million to \$5 Billion.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS:

1/ Flooding continued at the end of the month.

NA Not available.

FLOOD STAGE DATA:

Highest Stage Observed

1/ Continued at end of month

— Highest Stage of Record

E Estimated

P Provisional (Flood Stage)

! Unknown

RAWINSONDE DATA (Average Monthly Values):

All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygrometers. These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.

+ Observations for these stations are scheduled at 0000 G.C.T.

† Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

REFERENCE NOTES - Continued

SOLAR RADIATION INTENSITIES: Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

()	Clouds Present	DM	Moderate Dust	HM	Moderate Haze	KS	Slight Smoke
*	Values corresponding to true solar noon	DS	Slight Dust	HS	Slight Haze	M	Moderate Haze-indeter-
BD	Blowing Dust	F	Fog	I	Intense Haze-indeterminable		minable
BN	Blowing Sand	GF	Ground Fog	K	Smoke	N	Sand
D	Dust	H	Haze	KI	Intense Smoke	S	Slight Haze-indeter-
DI	Intense Dust	HI	Intense Haze	KM	Moderate Smoke		minable

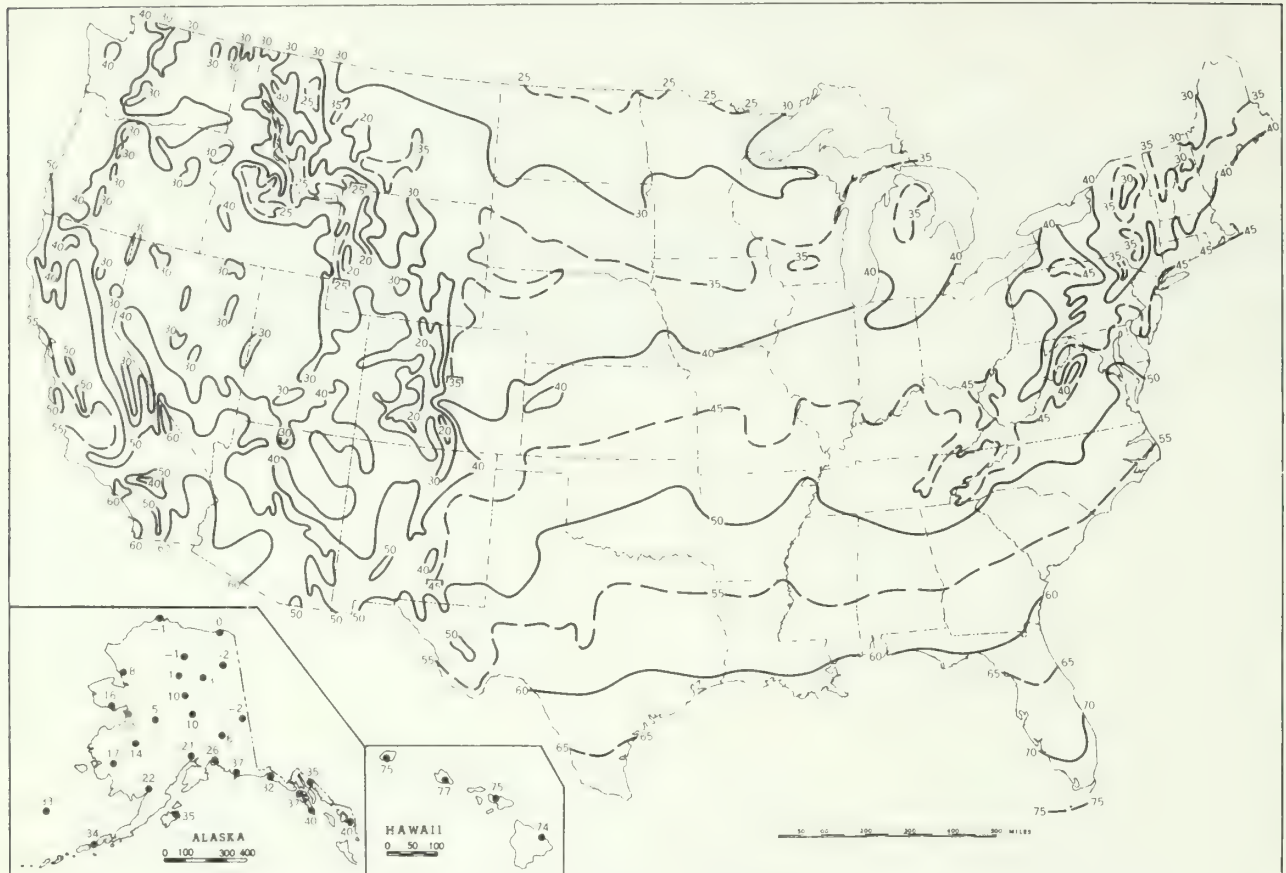
NET RADIATION: The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the NOAA, National Weather Service.

SOLAR ULTRA-VIOLET RADIATION DATA: These data are from an U-V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. This instrument has not been checked by the NOAA, National Weather Service.

TOTAL OZONE DATA: The spectrophotometer measures the total amount of ozone in the atmosphere, i.e., the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded *Q Q Q*) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e.g., 350 milli-atmosphere implies an ozone layer 0.350 centimeter thick. The code *AS* designates the type of measurement made.

Chart 1. A. Normal Daily Average Temperature (°F. 1941-70), November.



B. Temperature Departure from 30 - Year Mean (°F 1941-70), November 1974

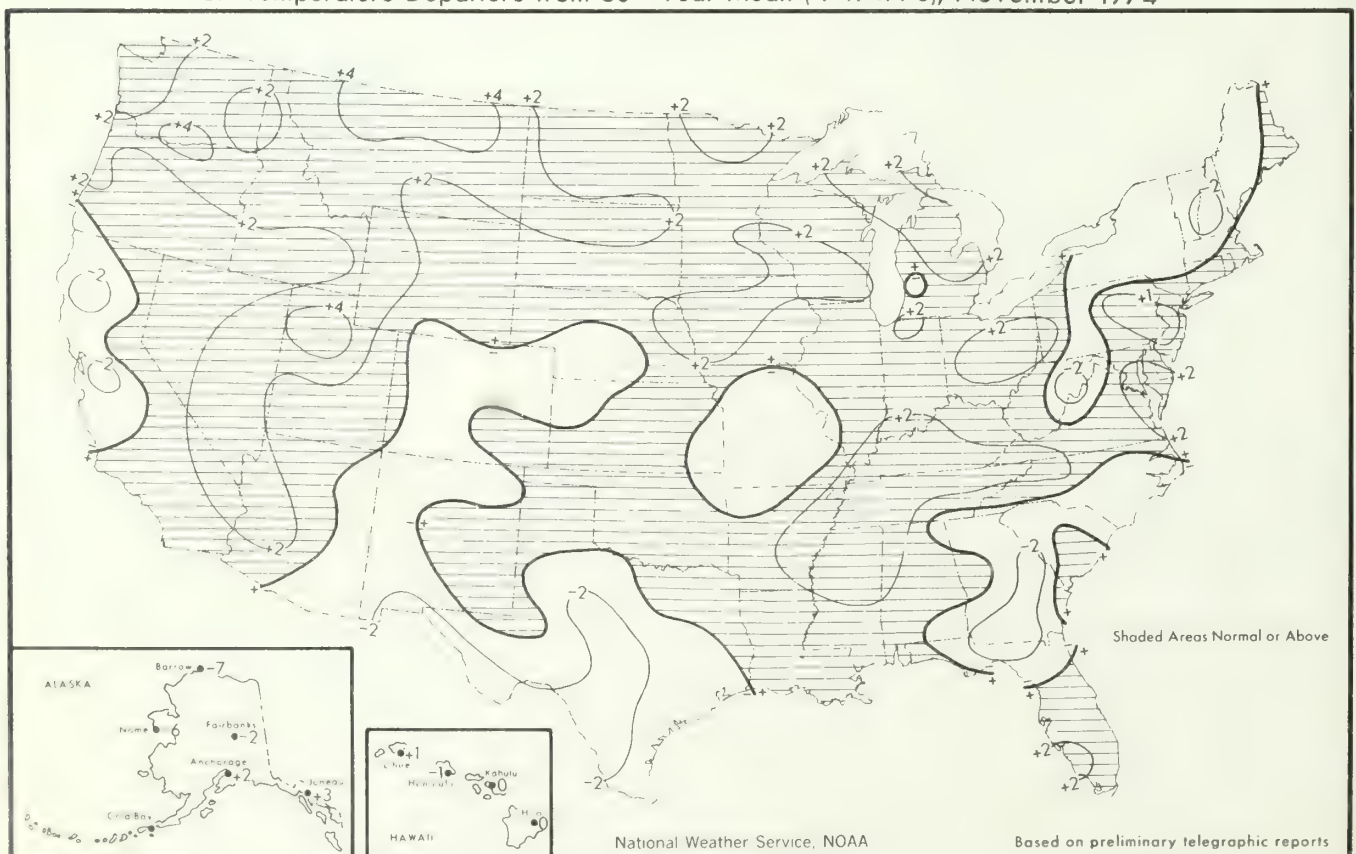
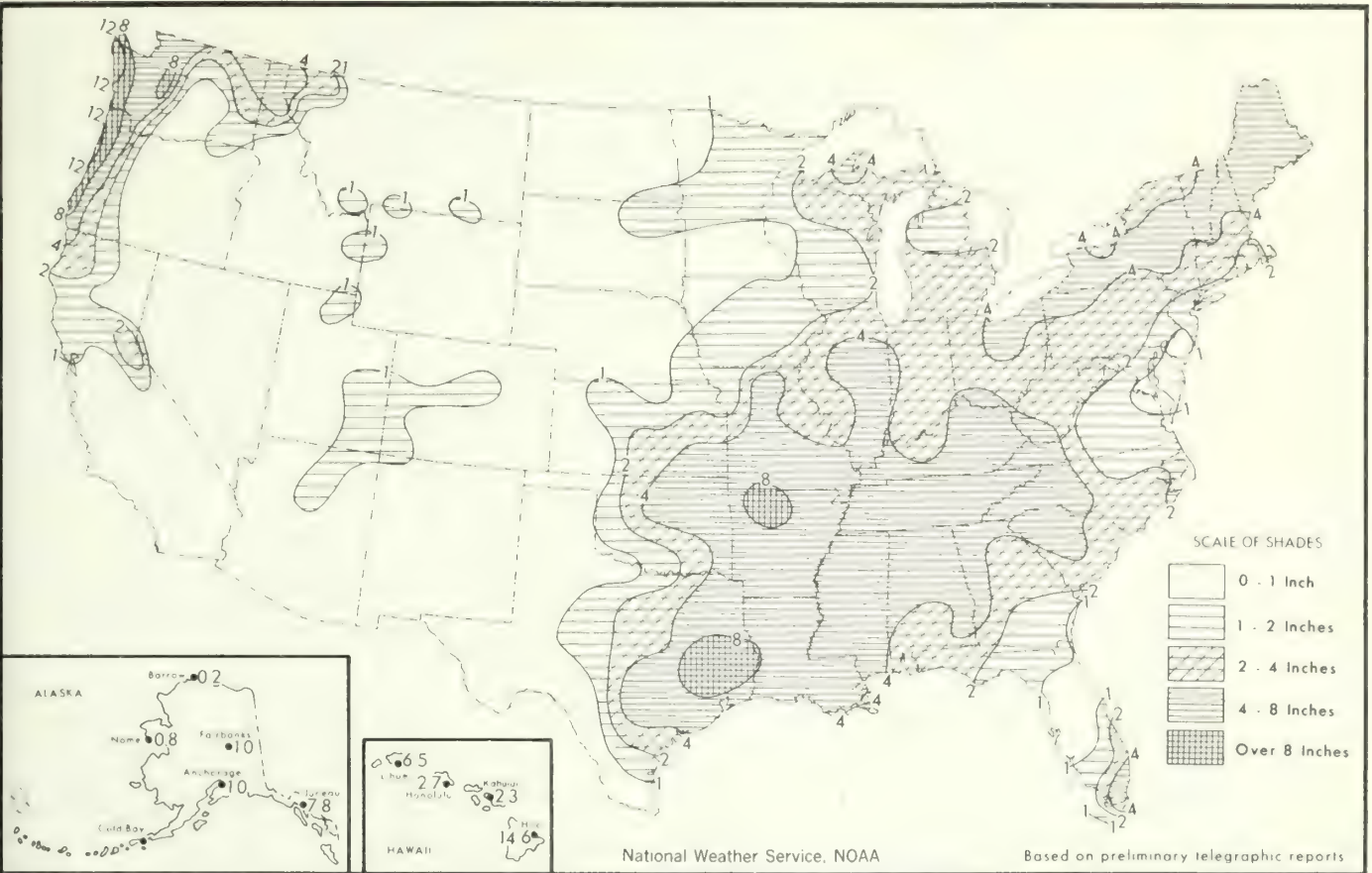


Chart II. A. Total Precipitation (Inches), November 1974



B. Percentage of Normal Precipitation, November 1974

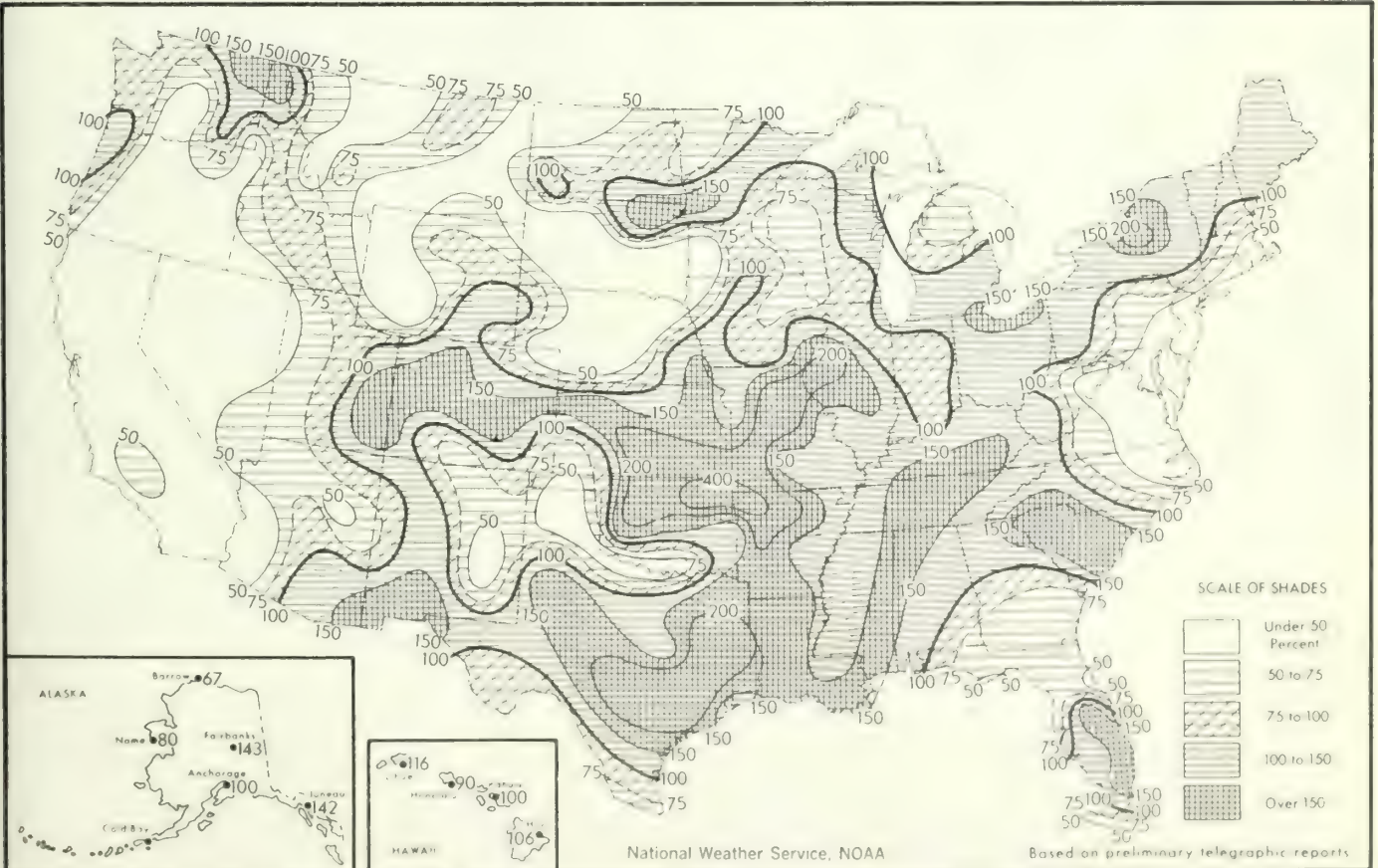
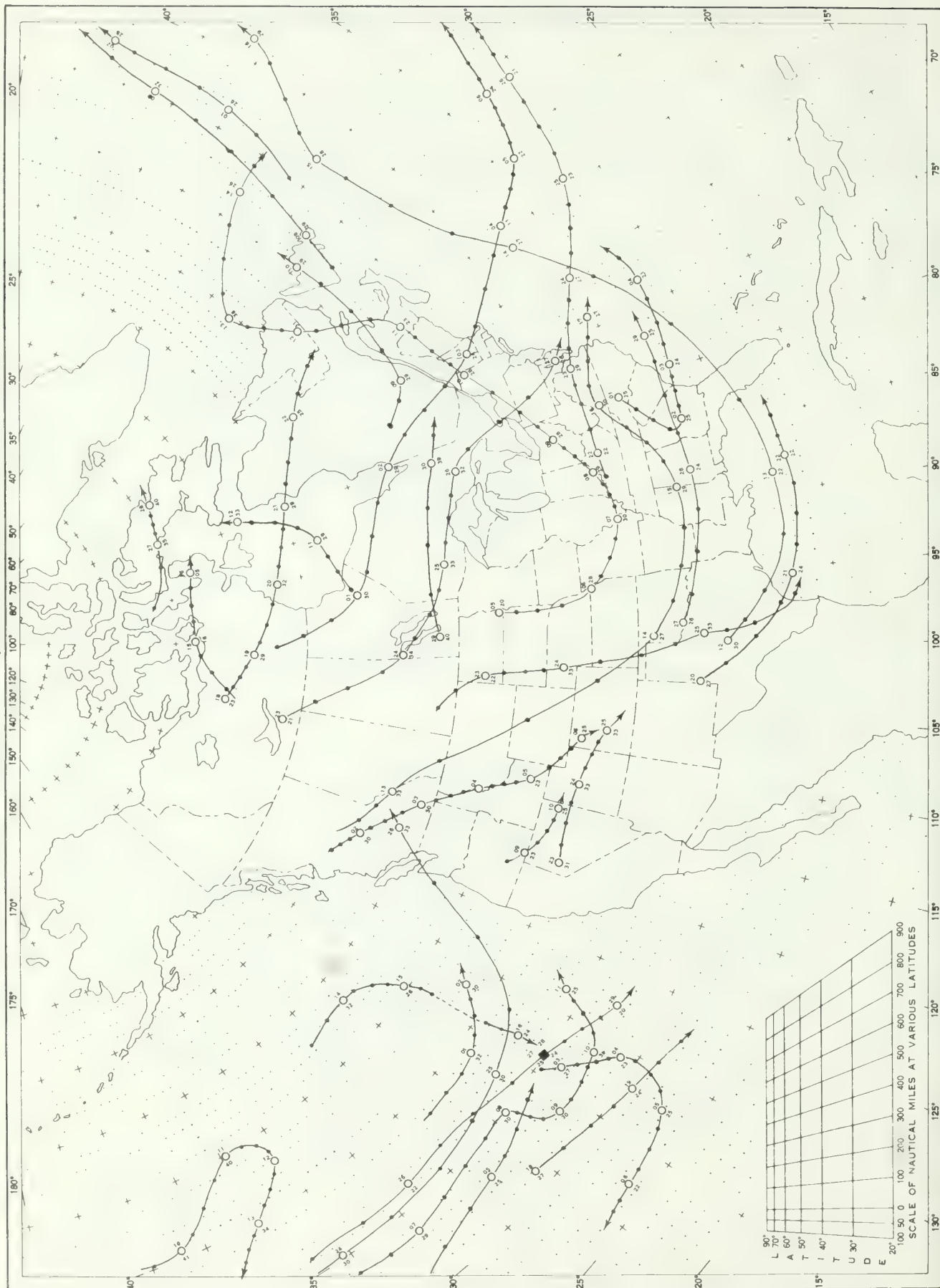
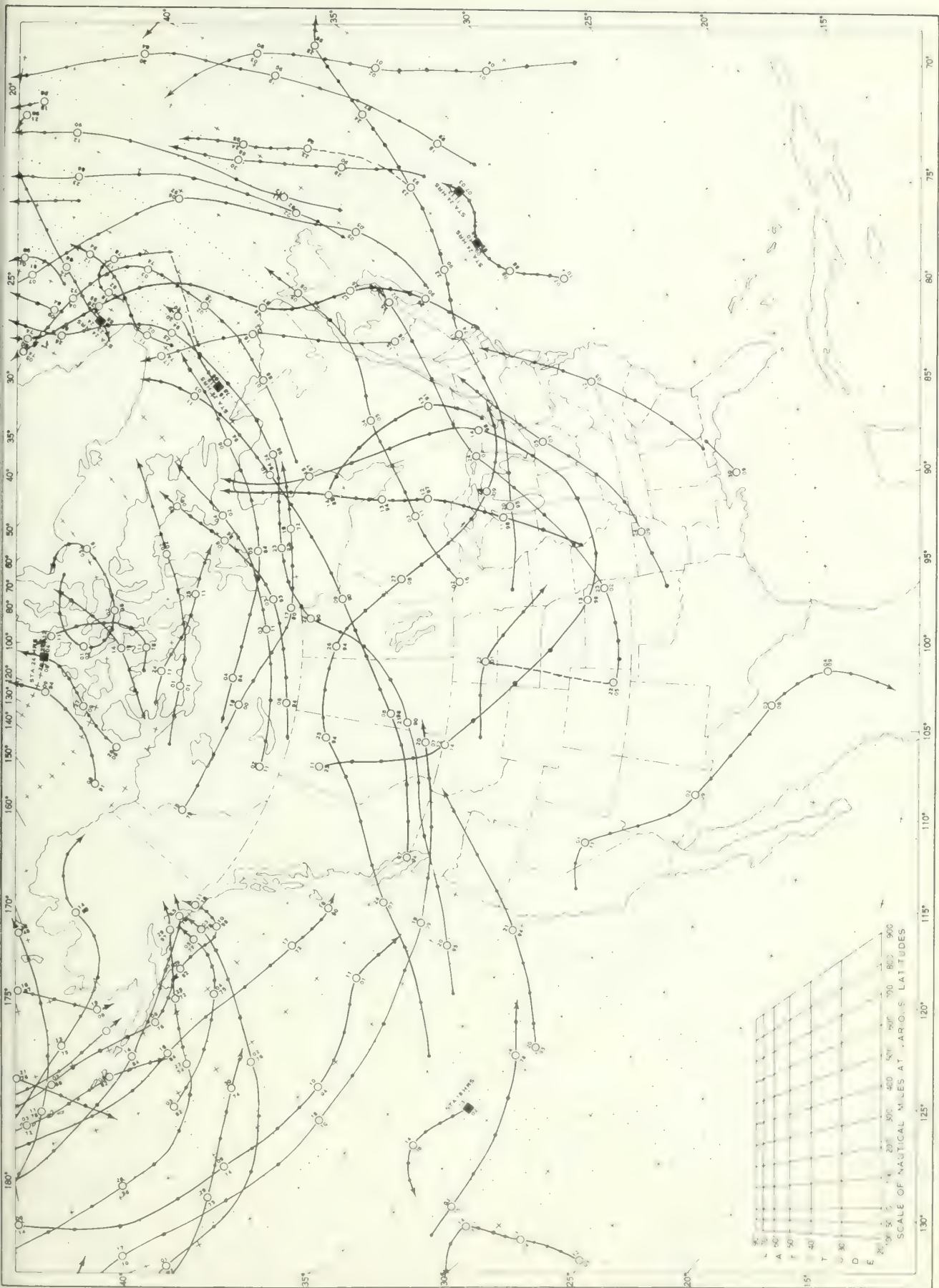


Chart III. Tracks of Centers of Anticyclones at Sea Level, November 1974



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar.
Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Environmental Data Service



EMBER

1974

ume 25

No. 12

le, N.C.

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NOTE: Late reports and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

SUBSCRIPTION PRICE: \$8.85 a year including annual summary; \$7.75 additional for foreign mailing; 60¢ single copy; \$1.65 annual summary. Make checks payable to Department of Commerce, NOAA; send payments and orders to: National Climatic Center, Federal Building, Asheville, N. C. 28801. Attn: Publications.

I certify that this is an official publication of the National Oceanic and Atmospheric Administration, and is compiled from records on file at the National Climatic Center, Asheville, North Carolina 28801.

William H. Haggard
Director, National Climatic Center

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

DECEMBER 1974

GENERAL SUMMARY OF WEATHER CONDITIONS

Dr. Richard E. Felch, Climatologist

HIGHLIGHTS: Temperatures averaged well above normal for most of the Nation. The main exceptions were the desert Southwest, Nevada, and California, and parts of Texas, western Arkansas, and Missouri. Most of the Washington-Boston corridor averaged at least above normal. Further west northern Montana, North Dakota, Minnesota and Wisconsin averaged 4 to 6° above normal. In the Southwest, temperatures were 4 to 6° below normal in Colorado, New Mexico, and Arizona.

Precipitation ranged from nearly nothing in the Northwest to 19.02 inches at Quillayute, Wash. Percentagewise, precipitation was near normal from the West Belt eastward to the Atlantic, in the Pacific Northwest, and the Southeast. Areas well above normal included parts of Louisiana and Mississippi and southern California. The northern Great Plains generally remained dry.

PRECIPITATION: A vigorous storm lashed the Great Lakes and New England area during the first week of December as a strong low pressure passed through the region. Strong winds, high tides, and heavy rains lashed coastal areas while the Detroit, Mich.-Akron, Ohio area received 18 inches of snow. As the storm moved over West Virginia, two feet of snow remained in many parts, the worst storm since 1968. A complementary storm system also dumped heavy rains over most of Mississippi and Louisiana.

Considerable snow fell during the second week in various parts of the Country. On the 11th, a complementary system which had formed over the Gulf of Mexico combined with colder air from the north to drop heavy snow over Kansas and Oklahoma, and rain and showers over the Lower Mississippi Valley.

A second storm moving across the northern United States produced rain over parts of the lower North and snow over New England, and the upper Great Lakes.

By the 15th, nearly 11 inches of snow blanketed parts of Nebraska and Kansas.

Heavy rain during the week ending the 22d caused local flooding in the Mid-Atlantic States. Snow and wind over the northern and central Rockies endangered travelers and required an avalanche warning for the Colorado mountains. The heaviest precipitation fell along the Gulf and East Coasts.

During the final week of the month, the heaviest precipitation fell in the Deep South as 2 to 4 inches of rain fell over several States.

TEMPERATURE: Temperature departures varied widely during the month with the first week much colder than usual over the eastern half of the country and warm in the western States. The cold temperatures in the East were associated with Canadian air reaching as far south as Florida and the Gulf Coast.

During the second week, the Nation was again divided, but on an east-west axis. The northern half of the Nation was well above normal. Temperatures in Minnesota and the Dakotas averaged 6 to 12° above normal. To the south, parts of Arizona and New Mexico averaged 6 to 9° below normal.

Except for the Southeast, most of the Nation was warmer than normal during the week ending on the 22d. This was the result of the combination of warm Gulf air being pushed northward by a large high over the Gulf and cold shallow air off the mountains being warmed as it moved downslope.

Temperatures during the final week of December were much warmer than usual over the eastern half of the Nation as warm Gulf air, pumped by a large high over the Atlantic, covered the area. Temperatures to the west were well below normal.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

DECEMBER 1974

STATE	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest °F	Date	Station	Lowest °F	Date	Station	Greatest In.	Station	Least In.
Alabama	Whatley	82	29	Waterloo	13	10	Waterloo	9.85	Coffee Springs 2 NW	2.18
Alaska	Ketchikan	52	7	Allakaket	-65	29	Little Port Walter	30.62	Wales	.00
Arizona	Florence	78	3	Bright Angel R S	-21	24	Camp Wood	2.20	Y Lightning Ranch	.00
Arkansas	2 Stations	78	31	2 Stations	9	9	Rohwer 2 NNE	6.90	Salem	1.29
California	San Gabriel Fire Dept.	84	16	2 Stations	-18	29	Gasquet Ranger Station	15.70	Ocotillo 2	.08
Colorado	3 Stations	68	1	2 Stations	-42	25	Marvine Ranch	3.98	Kauffman 4 SSE	.00
Connecticut	Stamford 5 N	64	9	2 Stations	6	27	Wolcott Reservoir	7.05	Bulls Bridge Dam	3.64
Delaware	Dover	64	24	3 Stations	20	11	Milford 2 WSW	6.55	Dover	4.11
Florida	Clewiston U. S. Engineers	86	21	2 Stations	19	4	Cedar Key 1 WSW	5.98	Royal Palm Ranger Station	.30
Georgia	Colquitt 2 E	82	26	2 Stations	14	18	Franklin 2	8.83	Fitzgerald	1.77
Hawaii	Keawakapu Beach 260.2, Maui	89	8	Mauna Loa Slope Obs., Ha.	26	20	Hilo Country Club 86.6, Ha.	38.06	3 Stations	.00
Idaho	4 Stations	58	21	Stanley	-31	31	Clarkia Ranger Station	5.91	Lifton Pumping Station	.18
Illinois	3 Stations	63	31	3 Stations	3	22	Dixon Springs Agri. Center	4.23	Stockton	.78
Indiana	Evans Landing	65	23	Culver Experiment Farm	3	26	Elwood Waterworks	5.78	Kentland	1.42
Iowa	2 Stations	55	11	Hawarden	-2	17	Tipton	2.95	Sioux City 8 N	.11
Kansas	Elkhart	67	4	3 Stations	0	30	Fort Scott	3.25	Lakin	.1
Kentucky	Monticello	71	31	Ashland	4	10	Williamsburg	5.62	London FAA AP	2.23
Louisiana	2 Stations	82	29	Ashland 2 S	19	9	Vidalia 2	10.24	Boothville WSO	1.01
Maine	Bangor FAA AP	58	9	Clayton Lake 2	-20	26	Farmington	5.45	Orono	1.33
Maryland	Leonardtown 3 NW	68	8	Oakland 1 SE	-1	6	Baltimore WSO CI	8.06	Annapolis USN Academy	3.37
Massachusetts	2 Stations	62	8	Lanesboro	-2	27	Worcester WSO AP	6.04	Pelham	2.64
Michigan	2 Stations	48	27	Bergland Dam	-10	10	Monroe	4.63	Kenton U. S. Forest	.43
Minnesota	2 Stations	52	11	Tower 3 S	-17	9	Harmony	2.03	Lake City	.7
Mississippi	3 Stations	81	31	2 Stations	14	5	Natchez	11.57	State Line	2.16
Missouri	Ozark Beach	69	23	Shelbina	-1	3	Cassville Ranger Station	4.21	Oregon	.39
Montana	4 Stations	61	21	2 Stations	-29	29	Troy 18 N	5.07	2 Stations	.00
Nebraska	4 Stations	68	5	Gordon	-10	25	Wahoo	2.25	Valentine Lks. Game Ret.	.09
Nevada	Lathrop Wells 16 SSE	73	16	Mountain City R S	-20	30	Mount Rose Bowl	3.44	Mina	.09
New Hampshire	Concord WSO AP	56	8	Colebrook 2 E	-10	5	Mount Washington	16.24	Colebrook 2 E	1.68
New Jersey	2 Stations	64	8	Newton St. Pauls Abbey	13	1	Long Branch 2 S	10.49	Atlantic City	3.31
New Mexico	4	75	23	Eagle Nest	-41	25	Sandia Ranger Station	2.31	5 Stations	.07
New York	3 Stations	60	9	Stillwater Reservoir	-16	27	Slide Mountain	8.99	Smiths Basin	1.32
North Carolina	Elizabethtown Lock 2	76	25	Transco	-1	5	Andrews 2 E	8.60	Rhodhiss Hydro Plant	2.29
North Dakota	Hankinson R R Station	59	11	2 Stations	-14	29	Belcourt Indian Res.	1.52	2 Stations	.1
Ohio	Portsmouth	65	24	Fredericktown 4 S	-6	5	Gallipolis	4.87	Columbus Sullivant Ave.	1.63
Oklahoma	3 Stations	76	23	Goodwell Research Station	0	25	Pryor 5 SSE	5.35	Regnier	.08
Oregon	Foster Dam	69	6	Austin 3 S	-17	29	Valsetz	31.40	Burns Junction	.35
Pennsylvania	Philadelphia WSO AP	62	8	Clermont 4 NW	-3	21	Donegal 2 NW	6.78	Greenville	1.54
Puerto Rico	Utuado 1 WSW	92	4	Adjuntas Substation	47	18	Pico Del Este	11.50	Ponce City	.00
Rhode Island	Kingston	59	8	Kingston	12	6	Woonsocket	5.66	Newport	3.32
South Carolina	Yemassee 4 W	78	25	Ninety Nine Islands	12	16	Whitmire 4 NE	8.64	Yemassee 4 W	2.49
South Dakota	Mission	67	5	Deerfield 4 NW	-20	24	Lead 1 E	1.75	3 Stations	.00
Tennessee	Memphis WSO AP	75	31	Mountain City 2	-5	5	Rockwood 2	9.26	Dyersburg FAA AP	2.10
Texas	2 Stations	91	24	Perryton 5 NNE	5	1	Jackson Hill Guard Sta.	8.66	Whitsett 2 SW	.1
Utah	4 Stations	61	22	Scotfield	-33	23	Alta	10.93	Vernal Airport	.00
Vermont	3 Stations	56	9	Chelsea	-7	27	Mount Mansfield	5.94	Manchester Center	1.39
Virginia	John H. Kerr Dam	73	31	Floyd 2 NE	-5	5	Mount Weather	7.56	Covington	1.70
Virgin Islands	3 Stations	87	23	Alex Hamilton Field FAA	63	9	Granard	2.61	Frederiksted	.21
Washington	2 Stations	63	22	Republic	-2	29	Quinalt Ranger Station	28.10	Richland	.50
West Virginia	Ravenswood Lock Park	69	23	Canaan Valley	-15	5	Martinsburg FAA AP	6.39	Union	.90
Wisconsin	Lake Mills	49	23	2 Stations	-11	9	Horicon	2.61	Spooner Exp. Farm	.13
Wyoming	Yoder	67	4	2 Stations	-35	24	Snake River	2.81	Torrington Exp. Farm	.00

CLIMATOLOGICAL DATA
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[illegible]

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State and Station	Pressure		Temperature						Precipitation				Wind				No. of days (sunrise to sunset)		Possible sunshine																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
	Elevation (ground)	Station	Sea level	Average maximum		Average minimum		Departure from normal	Highest		Lowest		Date	Max 32.2 °C or above		Min. 0 °C or lower	Average dew point	Average relative humidity		Total		Departure from normal	Greatest in 24 hours	25 mm or more	No. of days	Snow, ice pellets	Resultant speed	Resultant direction	Speed	Direction	Date	Fastest mile (1.6 kilometers)	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
				C	F	C	F		C	F	C	F		C	F					C	F																C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C	F	C

CLIMATOLOGICAL DATA

METRIC UNITS

DECEMBER 1974

State and Station	Elevation (ground)	Pressure		Temperature				Precipitation				Wind			No. of days		Sky cover (tenths (sunrise to sunset)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
		Station	Sea level	Average		Departure from normal	Highest		Lowest	Date	Max 32.2° or above	Min 0° or lower	Average dew point	Average relative humidity	Precipitation			Fastest mile (16 kilometers)	Direction	Date																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
				Maximum	Minimum		Total	25 mm or more							No. of days	Snow, ice pellets					Maximum depth on ground	Resultant speed	Resultant direction																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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CLIMATOLOGICAL DATA

METRIC UNITS

DECEMBER 1974

State and Station	Station	Elevation ground	Pressure		Temperature				Precipitation				Wind		No. of days (sunrise to sunset)	Sky cover, tenths (sunrise to sunset)												
			mb	Sea level	Average maximum	Average minimum	Departure from normal	Highest	Lowest	Date	Max 32.2 °C or above	Min. 0 °C or lower	No. of days	Average relative humidity			Precipitation		Fastest mile (1.6 kilometers)									
																	Resultant speed	Resultant direction		Speed	Direction	Date						
SOUTH CAROLINA	CHARLESTON J	68	1010.5	1018.9	15.3	7.0	11.2	5.5	21.7	30	-1.1	18	0	1	80	0	0	0	1.2	27	12.1	30	17	2	17	14.8	36	
			983.4	1018.7	11.4	1.3	6.3	1.3	21.7	30	-7.8	10	0	14	0	1.1	73	0	0	1.1	27	10.3	17	8	16	6.7	45	
			967.5	1016.3	1.5	-11.7	-5.1	3.6	13.9	8	-20.6	8	0	31	0	81	28	24	1.3	29	12.5	35	7	8	14	6.3	6.3	
			964	1016.6	1.6	-11.4	-4.9	2.2	12.8	9	-23.3	25	0	31	0	78	23	25	1.1	27	12.5	NW	17	9	14	6.2	56	
SOUTH DAKOTA	GRAND RAPIDS	437 <td>963.8</td> <td>1017.0</td> <td>1.3</td> <td>-10.7</td> <td>-4.7</td> <td>2.0</td> <td>12.8</td> <td>11</td> <td>-18.3</td> <td>25</td> <td>0</td> <td>31</td> <td>-8.6</td> <td>75</td> <td>25</td> <td>25</td> <td>1.3</td> <td>29</td> <td>11.6</td> <td>32</td> <td>31</td> <td>7</td> <td>13</td> <td>9.8</td> <td>75</td>	963.8	1017.0	1.3	-10.7	-4.7	2.0	12.8	11	-18.3	25	0	31	-8.6	75	25	25	1.3	29	11.6	32	31	7	13	9.8	75	
			967.5	1016.3	1.5	-11.7	-5.1	3.6	13.9	8	-20.6	8	0	31	0	81	28	24	1.3	29	12.5	35	7	8	14	6.3	6.3	
			964	1016.6	1.6	-11.4	-4.9	2.2	12.8	9	-23.3	25	0	31	0	78	23	25	1.1	27	12.5	NW	17	9	14	6.2	56	
			963.8	1017.0	1.3	-10.7	-4.7	2.0	12.8	11	-18.3	25	0	31	0	81	28	24	1.3	29	11.6	32	31	7	13	9.8	75	
TENNESSEE	CHATTANOOGA	459 <td>963.1</td> <td>1018.3</td> <td>8.9</td> <td>0.4</td> <td>4.8</td> <td>1.0</td> <td>25.6</td> <td>30</td> <td>-9.4</td> <td>18</td> <td>0</td> <td>19</td> <td>70</td> <td>79</td> <td>25</td> <td>25</td> <td>1.3</td> <td>29</td> <td>9.4</td> <td>31</td> <td>25</td> <td>3</td> <td>19</td> <td>7.7</td> <td>37</td>	963.1	1018.3	8.9	0.4	4.8	1.0	25.6	30	-9.4	18	0	19	70	79	25	25	1.3	29	9.4	31	25	3	19	7.7	37	
			963.1	1018.3	8.9	0.4	4.8	1.0	25.6	30	-9.4	18	0	19	70	79	25	25	1.3	29	9.4	31	25	3	19	7.7	37	
			963.1	1018.3	8.9	0.4	4.8	1.0	25.6	30	-9.4	18	0	19	70	79	25	25	1.3	29	9.4	31	25	3	19	7.7	37	
			963.1	1018.3	8.9	0.4	4.8	1.0	25.6	30	-9.4	18	0	19	70	79	25	25	1.3	29	9.4	31	25	3	19	7.7	37	
TEXAS	DALLAS	180 <td>955.9</td> <td>1018.2</td> <td>9.2</td> <td>-0.8</td> <td>4.2</td> <td>1.2</td> <td>19.4</td> <td>31</td> <td>-8.9</td> <td>10</td> <td>0</td> <td>22</td> <td>79</td> <td>129</td> <td>38</td> <td>38</td> <td>1.7</td> <td>22</td> <td>11.6</td> <td>21</td> <td>21</td> <td>5</td> <td>20</td> <td>6.6</td> <td>44</td>	955.9	1018.2	9.2	-0.8	4.2	1.2	19.4	31	-8.9	10	0	22	79	129	38	38	1.7	22	11.6	21	21	5	20	6.6	44	
			955.9	1018.2	9.2	-0.8	4.2	1.2	19.4	31	-8.9	10	0	22	79	129	38	38	1.7	22	11.6	21	21	5	20	6.6	44	
			955.9	1018.2	9.2	-0.8	4.2	1.2	19.4	31	-8.9	10	0	22	79	129	38	38	1.7	22	11.6	21	21	5	20	6.6	44	
			955.9	1018.2	9.2	-0.8	4.2	1.2	19.4	31	-8.9	10	0	22	79	129	38	38	1.7	22	11.6	21	21	5	20	6.6	44	
UTAH	SALT LAKE CITY	1291 <td>843.6</td> <td>1022.8</td> <td>4.1</td> <td>-11.4</td> <td>-3.6</td> <td>-1.7</td> <td>13.3</td> <td>3</td> <td>-22.2</td> <td>25</td> <td>0</td> <td>30</td> <td>65</td> <td>25</td> <td>25</td> <td>25</td> <td>1.5</td> <td>18</td> <td>13.9</td> <td>5</td> <td>4</td> <td>8</td> <td>10</td> <td>13</td> <td>6.0</td> <td>65</td>	843.6	1022.8	4.1	-11.4	-3.6	-1.7	13.3	3	-22.2	25	0	30	65	25	25	25	1.5	18	13.9	5	4	8	10	13	6.0	65
			843.6	1022.8	4.1	-11.4	-3.6	-1.7	13.3	3	-22.2	25	0	30	65	25	25	25	1.5	18	13.9	5	4	8	10	13	6.0	65
			843.6	1022.8	4.1	-11.4	-3.6	-1.7	13.3	3	-22.2	25	0	30	65	25	25	25	1.5	18	13.9	5	4	8	10	13	6.0	65
			843.6	1022.8	4.1	-11.4	-3.6	-1.7	13.3	3	-22.2	25	0	30	65	25	25	25	1.5	18	13.9	5	4	8	10	13	6.0	65
VERMONT	BURLINGTON	101 <td>1003.7</td> <td>1016.7</td> <td>1.3</td> <td>-5.3</td> <td>-1.9</td> <td>3.3</td> <td>11.7</td> <td>8</td> <td>-17.8</td> <td>26</td> <td>0</td> <td>27</td> <td>77</td> <td>53</td> <td>142</td> <td>142</td> <td>0.6</td> <td>23</td> <td>13.4</td> <td>NW</td> <td>4</td> <td>3</td> <td>1</td> <td>27</td> <td>8.7</td> <td>25</td>	1003.7	1016.7	1.3	-5.3	-1.9	3.3	11.7	8	-17.8	26	0	27	77	53	142	142	0.6	23	13.4	NW	4	3	1	27	8.7	25
			1003.7	1016.7	1.3	-5.3	-1.9	3.3	11.7	8	-17.8	26	0	27	77	53	142	142	0.6	23	13.4	NW	4	3	1	27	8.7	25
			1003.7	1016.7	1.3	-5.3	-1.9	3.3	11.7	8	-17.8	26	0	27	77	53	142	142	0.6	23	13.4	NW	4	3	1	27	8.7	25
			1003.7	1016.7	1.3	-5.3	-1.9	3.3	11.7	8	-17.8	26	0	27	77	53	142	142	0.6	23	13.4	NW	4	3	1	27	8.7	25
VIRGINIA	LYNCHBURG	279 <td>982.7</td> <td>1017.5</td> <td>9.1</td> <td>-1.3</td> <td>3.9</td> <td>0.7</td> <td>18.3</td> <td>30</td> <td>-9.4</td> <td>5</td> <td>0</td> <td>19</td> <td>75</td> <td>93</td> <td>25</td> <td>25</td> <td>1.7</td> <td>28</td> <td>13.9</td> <td>NE</td> <td>1</td> <td>1</td> <td>9</td> <td>15</td> <td>6.3</td> <td>45</td>	982.7	1017.5	9.1	-1.3	3.9	0.7	18.3	30	-9.4	5	0	19	75	93	25	25	1.7	28	13.9	NE	1	1	9	15	6.3	45
			982.7	1017.5	9.1	-1.3	3.9	0.7	18.3	30	-9.4	5	0	19	75	93	25	25	1.7	28	13.9	NE	1	1	9	15	6.3	45
			982.7	1017.5	9.1	-1.3	3.9	0.7	18.3	30	-9.4	5	0	19	75	93	25	25	1.7	28	13.9	NE	1	1	9	15	6.3	45
			982.7	1017.5	9.1	-1.3	3.9	0.7	18.3	30	-9.4	5	0	19	75	93	25	25	1.7	28	13.9	NE	1	1	9	15	6.3	45
WASHINGTON	SEATTLE	1204	974.9	1017.7	9.6	-1.2	5.4	1.6	19.4	25	-2.8	11	0	13	64	91	168	180	2.3	28	22.8	S	5	16	7	16	6.6	55
			974.9	1017.7	9.6	-1.2	5.4	1.6	19.4	25	-2.8	11	0	13	64	91	168	180	2.3	28	22.8	S	5	16	7	16	6.6	55
			974.9	1017.7	9.6	-1.2	5.4	1.6	19.4	25	-2.8	11	0	13	64	91	168	180	2.3	28	22.8	S	5	16	7	16	6.6	55
			974.9	1017.7	9.6	-1.2	5.4	1.6	19.4	25	-2.8	11	0	13	64	91	168	180	2.3	28	22.8	S	5	16	7	16	6.6	55
YAKIMA	YAKIMA	321 <td>980.7</td> <td>1020.1</td> <td>6.3</td> <td>-2.7</td> <td>1.8</td> <td>2.2</td> <td>13.9</td> <td>21</td> <td>-8.9</td> <td>31</td> <td>0</td> <td>12</td> <td>83</td> <td>29</td> <td>41</td> <td>25</td> <td>1.3</td> <td>26</td> <td>16.5</td> <td>SW</td> <td>21</td> <td>4</td> <td>7</td> <td>20</td> <td>7.7</td> <td>24</td>	980.7	1020.1	6.3	-2.7	1.8	2.2	13.9	21	-8.9	31	0	12	83	29	41	25	1.3	26	16.5	SW	21	4	7	20	7.7	24
			980.7	1020.1	6.3	-2.7	1.8	2.2	13.9	21	-8.9	31	0	12	83	29	41	25	1.3	26	16.5	SW	21	4	7	20	7.7	24
			980.7	1020.1	6.3	-2.7	1.8	2.2	13.9	21	-8.9	31	0	12	83	29	41	25	1.3	26	16.5	SW	21	4	7	20	7.7	24
			980.7	1020.1	6.3	-2.7	1.8	2.2	13.9	21	-8.9	31	0	12	83	29	41	25	1.3	26	16.5	SW	21	4	7	20	7.7	24

DECEMBER 1974

HEATING DEGREE DAYS

(Base 65°F.)

DECEMBER 1974

State and Station	Current season			State and Station	Current season			State and Station	Current season			State and Station	Current season		
	This month	Period July through this month	Normals July through this month		This month	Period July through this month	Normals July through this month		This month	Period July through this month	Normals July through this month		This month	Period July through this month	Normals July through this month
ALABAMA				IDAHO				NEBRASKA				TENNESSEE			
BIRMINGHAM	542	1098	1148	BOISE	983	2137	2321	GRAND ISLAND	1229	2529	2457	BRISTOL	785	1710	1711
HUNTSVILLE	546	1274	1312	LEWISTON	852	1927	2221	LINCOLN	1177	2392	2361	CHATTANOOGA	746	1941	1412
MOBILE	336	609	638	POCATELLO	1246	2801	2787	NORFOLK	1208	2573	2663	KNOXVILLE	713	1390	1388
MONTGOMERY	452	887	911					NORTH PLATTE	1262	2831	2643	MEMPHIS	607	1123	1263
				ILLINOIS				OMAHA	1115	2347	2275	NASHVILLE	685	1393	1451
ALASKA				CAIRO U	795	1496	1472	SCOTT'SBLUFF	1135	2676	2650	DAK RIDGE	781	1740	1573
ANCHORAGE	1425	4575	4874	CHICAGO D HARE	1072	2357	2424	VALENTINE	1163	2711	2813				
ANNETTE	873	2907	2988	CHICAGO MIDWAY	1041	2275	2251					TEXAS			
BARTHA	2848	9292	8607	HOLMIE	1122	2398	2398	NEVADA				ABILENE	631	1158	1002
BARTER ISLAND	2974	9782	8434	PEORIA	1081	2349	2305	ELKO	1184	2792	3014	AMARILLO	890	1779	1609
BETHEL	2139	5991	5705	ROCKFORD	1179	2563	2578	ELY	1250	3027	3072	AUSTIN	441	728	643
BETTES	2615	7347	7167	SPRINGFIELD	996	2112	2101	LAS VEGAS	634	989	1045	BROWNSVILLE	169	249	185
BIG DELTA	2231	6269	6267					RENO	1046	2471	2430	CORPUS CHRISTI	265	386	307
CLOUD BAY	1157	4116	4272	INDIANA				WINNEMUCCA	1127	2680	2669	DALLAS FT WORTH	345	878	877
FAIRBANKS	2370	6329	6507	EVANSVILLE	865	1876	1794					DEL RIO	431	669	612
GULFKANA	1976	5838	6386	FORT WAYNE	1086	2395	2337	NEW HAMPSHIRE				EL PASO	728	1321	1133
HOMER	1261	4289	4637	INDIANAPOLIS	988	2207	2126	CONCORD	1182	3014	2786	GALVESTON	254	377	379
JUNEAU	957	3599	3957	SOUTH BEND	985	2182	2399	MT WASHINGTON OBS	1589	5952	5884	HOUSTON INTERCON	336	547	512
KING SALMON	1765	5035	5116									LUBBOCK	753	1524	1391
KODIAK	1143	3942	3848	IOWA				NEW JERSEY				MIDLAND	594	1047	1029
KOTZEBUE	2550	6986	6679	BURLINGTON	1099	2370	2313	ATLANTIC CITY	800	1818	1794	MURKIN	384	634	561
MC GRATH	2442	6610	6564	DES MOINES	1131	2373	2513	ATLANTIC CITY U	784	1723	1565	SAN ANGELO	945	238	885
NOME	2214	6562	6132	DUBUQUE	1219	2761	2769	NEWARK	802	1726	1787	SAN ANTONIO	433	714	584
SUMMIT	1932	6283	6519	SIOUX CITY	1241	2565	2649	TRENTON U	785	1722	1785	VICTORIA	286	448	423
TALKEETNA	1696	5104	5290	WATERLOO	1251	2779	2832					WACO	578	879	763
UNALAKLEET								NEW MEXICO				WICHITA FALLS	673	1161	1106
YAKUTAT	1023	3794	4157	KANSAS				ALBUQUERQUE	1020	1895	1733	UTAH			
				CONCORDIA	1005	2045	2132	CLAYTON	1010	2168	2005	MILFORD	1219	2614	2529
ARIZONA				ODDGE CITY	963	1895	1934	ROSWELL	784	1596	1552	SALT LAKE CITY	1025	2038	2365
F. AGSTAFF	1178	2789	2883	GOODLAND	1099	2661	2372					WENDOVER	1085	2315	2356
PHOENIX	439	572	587	TOPEKA	991	1990	2006	NEW YORK							
TUCSON	552	823	653	WICHITA	920	1764	1795	ALBANY	1113	2788	2562	VERMONT			
WINSLOW	1099	2070	1892					BINGHAMTON	1144	2854	2721	BURLINGTON	1128	2883	2916
YUMA	359	416	384	KENTUCKY				BUFFALO	1024	2434	2508				
ARKANSAS				COVINGTON	942	2074	1921	NEW YORK U	789	1684	1681	VIRGINIA	794	1714	1650
FORT SMITH	761	1393	1302	LEXINGTON	836	1877	1813	NEW YORK KENNEDY	775	1652	1777	LYNCHBURG	284	1184	1256
LITTLE ROCK	634	1169	1314	LOUISVILLE	794	1773	1787	NEW YORK LA GUARDIA	783	1699	1696	NORFOLK	715	1600	1510
								ROCHESTER	1034	2535	2432	RICHMOND	801	1732	1672
CALIFORNIA				LOUISIANA				SYRACUSE	1069	2581	2405	ROANOKE	713	1563	1470
BAKERSFIELD	558	828	863	ALEXANDRIA	443	797	865					WASHINGTON	763	2101	2278
BISHOP	864	1715	1491	BATON ROUGE	361	624	643	NORTH CAROLINA	760	1660	1695	OLYMPIA	656	2239	2461
BUJE CANYON	821	1802	1952	LAKE CHARLES	348	570	551	ASHEVILLE	459	909	889	QUILLAYUTE	634	1808	1896
EUREKA U	501	1984	2004	NEW ORLEANS	341	559	546	CAPE MATTERAS R	699	1419	1280	SEATTLE	690	1861	2101
FRESNO	628	1637	1030	SHREVEPORT	541	899	838	CHARLOTTE	711	1485	1521	SEATTLE-TACOMA	1062	2630	2798
LONG BEACH	331	445	505					GREENSBORO	668	1481	1386	SPOKANE	1062	2630	2798
LOS ANGELES	279	405	571	MAINE				RALEIGH	473	960	911	STAMPEDE PASS R	1087	3507	3936
LOS ANGELES U	288	366	371	CARIBOU	1433	3695	3714	WELMINGTON				WALLA WALLA U	722	1675	1956
MT SHASTA R	927	2188	2282	PORTLAND	1071	2695	2785					YAKIMA	917	2206	2509
NAKLANC	393	875	1107					NORTH DAKOTA							
RED BLUFF	645	1124	994	MARYLAND				BISMARCK	1466	3608	3483	WEST VIRGINIA	943	2252	2226
SACRAMENTO	969	2647	1061	BALTIMORE	759	1620	1765	FARGO	1362	3404	3542	BECKLEY	869	1957	1794
SANDORBERG	789	1555	1479					HILLISTON	1294	3354	3574	CHARLESTON	1074	2650	2379
SAN DIEGO	265	376	462	MASSACHUSETTS								ELKINS	812	1822	1795
SAN FRANCISCO	499	1183	1145	BLUE HILL OBS R	959	2342	2272	OHIO				HUNTINGTON	857	1905	1841
SAN FRANCISCO U	422	1257	1244	BOSTON	836	1985	1971	AKRON	1029	2273	2328	PARKERSBURG U			
SANTA MARIA	462	1092	1144	WORCHESTER	1023	2620	2518	CINCINNATI	862	1813	1843				
STOCKTON	639	1099	1052					CLEVELAND	1026	2292	2253				
				MICHIGAN				COLUMBUS	954	2067	2188	WISCONSIN			
COLORADO				ALPENA	1140	3084	3192	MANSFIELD	1073	2356	2171	GREEN BAY	1448	3124	3051
ALAMOSA	1601	3813	3566	DETROIT	1008	2180	2247	TOLEDO	1108	2508	2410	LA CROSSE	1182	2734	2805
COLORADO SPRINGS	1143	2555	2512	DETROIT METRO	1123	2535	2372	YOUNGSTOWN	1064	2470	2396	HADISON	1179	2742	2945
DENVER	1043	2435	2300	FLINT	1101	2582	2615					MILWAUKEE	1103	2607	2751
GRAND JUNCTION	1167	2249	2241	GRAND RAPIDS	1127	2800	2513	OKLAHOMA							
PUEBLO	1118	2169	2108	HOUGHTON LAKE	1197	3106	3172	OKLAHOMA CITY	784	1391	1409				
				LANSING	1094	2688	2564	TULSA	777	1418	1402	WYOMING			
CONNECTICUT				MARQUETTE U	1097	2947	3087					CASPER	1453	3052	2931
BRIDGEPORT	847	1833	1840	MUSKEGON	1046	2556	2516	ASTORIA	596	1897	2136	CHEYENNE	1180	2923	2803
HARTFORD	1057	2448	2354	SAULT STE MARIE	1260	3510	3453	BURNS U	1127	2726	2899	LANDER	1401	3183	3119
				MINNESOTA				EUGENE	589	1444	1888	SHERIDAN	1178	3014	3010
DELAWARE				DULUTH	1404	3869	3767	MEACHAM	1112	2925	3116				
WILMINGTON	805	1785	1804	INTERNATIONAL FALLS	1491	3896	4157	MEDFORD	803	1782	1972				
				MINNEAPOLIS	1252	2989	3093	PENDLETON	750	1710	2116				
DIST. OF COLUMBIA	873	1882	1904	ROCHESTER	1317	3095	3127	PORTLAND	640	1518	1914				
WASHINGTON DULLES	674	1396	1570	ST CLOUD	1369	3401	3397	SALEM	674	1711	1923				
WASHINGTON NATIONAL								SEXTON SUMMIT R	971	2466	2426				
				MISSISSIPPI											
FLORIDA				JACKSON	465	858	896	PENNSYLVANIA							
APPALACHICOLA U	285	435	498	MERIDIAN	461	867	972	ALLENTOWN	917	2151	2179				
DAYTONA BEACH	201	270	369					ERIE	1046	2515	2483				
FORT MYERS	74	85	156	MISSOURI				HARRISBURG	911	2019	1984				
JACKSONVILLE	321	546	497	COLUMBIA REGIONAL	1015	2094	1920	PHILADELPHIA	7						

MONTHLY AND SEASONAL COOLING DEGREE DAYS

(Base 65°F)

State and Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total for Season	Normals Jan.- Dec.
ALABAMA														
BIRMINGHAM	4	3	57	48	204	238	450	418	100	28	15	0	1640	
HUNTSVILLE	0	0	15	30	166	172	415	417	138	25	17	1	1376	
MOBILE	85	19	91	88	332	392	539	517	323	81	45	36	2548	
MONTGOMERY	16	4	56	69	272	325	485	420	239	29	18	8	1941	
ALASKA														
ANCHORAGE	0	0	0	0	0	0	1	0	0	0	0	0	1	
ANNETTE	0	0	0	0	0	0	0	12	0	0	0	0	12	
BARRON	0	0	0	0	0	0	0	0	0	0	0	0	0	
BARTER ISLAND	0	0	0	0	0	0	0	0	0	0	0	0	0	
BETHEL	0	0	0	0	0	0	3	0	0	0	0	0	3	
BETTLES	0	0	0	0	0	20	30	11	0	0	0	0	61	
BIG DELTA	0	0	0	0	0	1	7	4	0	0	0	0	12	
COLD BAY	0	0	0	0	0	0	0	0	0	0	0	0	0	
FAIRBANKS	0	0	0	0	1	9	44	20	0	0	0	0	74	
GULKANA	0	0	0	0	0	0	1	0	0	0	0	0	1	
HOMER	0	0	0	0	0	0	0	0	0	0	0	0	0	
JUNEAU	0	0	0	0	0	0	0	0	0	0	0	0	0	
KING SALMON	0	0	0	0	0	0	0	0	0	0	0	0	0	
KODIAK	0	0	0	0	0	3	0	0	0	0	0	0	3	
KUTZEBUE	0	0	0	0	0	0	0	0	0	0	0	0	0	
MC GRATH	0	0	0	0	0	3	4	0	0	0	0	0	11	
NUWE	0	0	0	0	0	1	0	0	0	0	0	0	1	
ST. PAUL ISLAND	0	0	0	0	0	0	0	0	0	0	0	0	0	
SUMMIT	0	0	0	0	0	0	0	0	0	0	0	0	0	
TALKEETNA	0	0	0	0	0	0	0	0	0	0	0	0	0	
UNALASKA LEET	0	0	0	0	0	0	0	1	0	0	0	0	1	
YAKUTAT	0	0	0	0	0	0	0	0	0	0	0	0	0	
ARIZONA														
FLAGSTAFF	0	0	0	0	0	120	66	33	13	0	0	0	232	
PHOENIX	0	2	69	182	477	925	858	821	673	365	13	0	4285	
TUCSON	0	0	18	87	301	664	581	564	387	185	1	0	2788	
WINSTON	0	0	0	0	71	360	385	308	136	5	0	0	1265	
YUMA	0	0	88	186	448	790	841	834	719	371	36	0	4313	
ARKANSAS														
FORT SMITH	0	0	43	40	224	231	527	345	82	28	7	0	1567	
LITTLE ROCK	0	0	45	37	206	288	572	441	148	36	14	0	1787	
CALIFORNIA														
BAKERSFIELD	0	0	12	63	281	505	651	616	549	206	0	0	2843	
BISHOP	0	0	0	0	83	275	358	280	179	0	0	0	1175	
BLUE CANYON	0	0	0	0	10	56	123	112	167	27	0	0	495	
EUREKA	0	0	0	0	0	0	0	0	0	0	0	0	0	
FRESNO	0	0	0	0	179	384	512	446	381	96	0	0	2020	
LONG BEACH	0	0	0	15	31	167	284	262	220	87	40	0	1106	
LOS ANGELES	0	3	0	2	5	58	179	150	125	65	40	0	627	
LOS ANGELES U	3	5	8	51	56	223	288	235	254	115	53	2	1295	
MT SHASTA R	0	0	0	0	4	118	94	62	0	0	0	0	326	
DAKLAND	0	0	0	0	6	5	21	12	29	47	0	0	120	
RED BLUFF	0	0	0	3	141	346	487	500	396	120	0	0	1993	
SACRAMENTO	0	0	0	5	61	180	296	285	222	89	0	0	1138	
SANDHURST R	0	0	0	0	31	170	255	246	281	41	0	0	1026	
SAN DIEGO	0	0	0	2	9	69	204	169	164	75	19	0	711	
SAN FRANCISCO	0	0	0	0	6	11	27	22	31	30	0	0	127	
SAN FRANCISCO U	0	0	0	3	4	3	4	3	19	41	0	0	77	
SANTA MARIA	0	0	0	0	0	0	19	12	4	11	0	0	46	
STOCKTON	0	0	0	6	103	304	433	358	323	96	0	0	1623	
COLORADO														
ALAMOSA	0	0	0	0	0	31	13	0	0	0	0	0	44	
COLORADO SPRINGS	0	0	0	0	18	130	241	109	26	0	0	0	524	
DENVER	0	0	0	0	36	176	307	157	39	0	0	0	715	
GRAND JUNCTION	0	0	0	1	73	335	420	335	109	0	0	0	1273	
PUEBLO	0	0	0	6	83	264	432	249	60	0	0	0	1098	
CONNECTICUT														
BRIDGEPORT	0	0	0	6	20	135	353	320	95	0	0	0	929	
HARTFORD	0	0	0	11	34	110	282	247	77	0	3	0	764	
DELAWARE														
WILMINGTON	0	0	0	24	64	175	370	355	113	2	0	0	1109	
DIST. OF COLUMBIA														
WASHINGTON DULLES	0	0	4	15	53	90	270	299	127	3	11	0	872	
WASHINGTON NATIONAL	0	0	4	33	96	205	441	422	192	17	27	0	1437	
FLORIDA														
APALACHICOLA U	67	23	83	122	357	444	505	507	449	132	60	4	2753	
DAYTONA BEACH	147	50	145	159	349	414	467	480	469	223	90	40	3013	
FORT MYERS	254	92	224	297	441	460	518	561	548	319	187	109	4010	
JACKSONVILLE	92	29	97	108	295	383	441	467	399	84	47	18	2460	
KEY WEST	371	194	343	387	484	544	585	601	587	445	317	230	5088	
LAKELAND U	193	59	205	203	404	433	471	532	501	218	172	45	3386	
MIAMI	294	150	335	342	471	518	551	596	578	414	245	103	4657	
ORLANDO		51	183	207	410	463	492	536	510	241	125	43		
PENSACOLA	93	24	121	125	384	440	546	505	408	125	51	35	2857	
TALLAHASSEE	88	22	77	94	302	396	482	491	420	60	27	13	2472	
TAMPA	196	55	204	197	413	460	506	562	540	250	130	48	3501	
WEST PALM BEACH	262	117	274	288	429	457	526	552	528	378	218	130	4159	
GEORGIA														
ATHENS	0	0	25	42	183	231	392	392	199	32	11	0	1507	
ATLANTA	0	1	24	42	198	229	405	368	187	41	11	0	1506	
AUGUSTA	1	4	16	48	226	284	420	421	265	22	11	3	1721	
COLUMBUS	18	6	54	69	265	327	490	470	276	46	10	3	2029	
MADON	17	6	59	87	288	344	505	482	264	49	13	1	2118	
ROME	0	0	10	35	111	111	407	362	169	7	6	1	940	
SAVANNAH	52	9	96	99	302	360	448	462	347	74	32	8	2289	

MONTHLY AND SEASONAL COOLING DEGREE DAYS

(Base 65°F)

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State and Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total for Season	Normals Jan.-Dec.
HAWAII														
HILLO	299	219	261	263	276	315	351	375	375	376	262	235	3607	
HONOLULU	300	270	285	378	415	434	468	509	458	457	328	341	4643	
KAHULUI	277	229	250	342	339	359	378	439	390	408	311	307	4029	
LIHUE	300	272	272	335	378	418	441	473	452	449	336	344	4470	
IDAHO														
BOISE	0	0	0	0	13	252	289	226	71	0	0	0	851	
LEWISTON	0	0	0	0	7	228	295	277	98	1	0	0	906	
POCATELLO	0	0	0	0	1	130	215	102	12	0	0	0	460	
ILLINOIS														
CAIRO	0	0	12	40	170	244	506	364	98	31	11	0	1476	
CHICAGO O'HARE	0	0	0	10	21	83	274	162	48	12	0	0	610	
CHICAGO MIDWAY	0	0	0	18	26	105	329	222	60	10	0	0	770	
MOBILE	0	0	0	17	50	113	389	180	45	3	0	0	797	
PEDRIA	0	0	0	12	43	99	377	233	47	6	0	0	817	
ROCKFORD	0	0	0	9	25	98	329	177	35	8	0	0	879	
SPRINGFIELD	0	0	7	14	70	136	437	252	49	17	2	0	984	
INDIANA														
EVANSVILLE	0	0	24	28	141	188	452	292	73	14	15	0	1229	
FORT WAYNE	0	0	0	6	27	106	322	225	39	2	0	0	727	
INDIANAPOLIS	0	0	11	19	73	131	346	225	40	3	2	0	850	
SOUTH BEND	0	0	0	10	17	114	321	222	60	11	0	0	755	
IOWA														
BURLINGTON	0	0	0	17	45	102	375	181	40	0	0	0	760	
DES MOINES	0	0	0	9	52	149	499	209	52	4	0	0	974	
DUBUQUE	0	0	0	4	18	59	287	109	18	0	0	0	495	
SIOUX CITY	0	0	0	4	47	173	513	193	41	4	0	0	980	
WATERLOO	0	0	0	9	23	105	331	136	38	0	0	0	642	
KANSAS														
CONCORDIA	0	0	0	18	94	207	607	248	69	19	0	0	1262	
ODDGE CITY	0	0	1	33	152	287	579	313	77	36	0	0	1478	
GOOGLAND	0	0	0	5	37	173	416	130	50	3	0	0	814	
TOPEKA	0	0	6	21	140	165	490	292	47	12	0	0	1173	
WICHITA	0	0	4	12	149	233	608	368	69	23	0	0	1466	
KENTUCKY														
COVINGTON	0	0	8	17	70	121	323	297	50	12	2	0	900	
LEXINGTON	0	0	10	21	94	108	296	264	60	11	4	0	868	
LOUISVILLE	0	0	22	31	109	136	345	319	75	8	10	0	1055	
LOUISIANA														
ALEXANDRIA	26	11	137	91	325	372	526	488	239	63	33	19	2330	
BATON ROUGE	57	21	142	141	380	390	511	485	329	103	49	33	2641	
LAKE CHARLES	34	17	126	133	349	418	534	496	310	143	61	29	2650	
NEW ORLEANS	71	27	147	144	345	402	484	484	368	93	45	45	2655	
SHREVEPORT	7	6	115	63	288	355	541	477	200	77	35	0	2164	
MAINE														
CARIBOU	0	0	0	0	2	21	38	50	5	0	0	0	116	
PORTLAND	0	0	0	2	4	26	121	115	28	0	0	0	296	
MARYLAND														
BALTIMORE	0	0	4	24	57	126	361	317	130	8	11	0	1038	
MASSACHUSETTS														
BLUE HILL OBS R	0	0	0	7	18	66	177	206	50	0	0	0	524	
BOSTON	0	0	0	10	22	81	235	226	68	1	2	0	646	
WORCHESTER	0	0	0	4	8	59	159	164	36	0	0	0	430	
MICHIGAN														
ALPENA	0	0	0	4	3	24	118	64	8	0	0	0	221	
DETROIT	0	0	0	14	18	150	321	277	69	4	1	0	854	
DETROIT METRO	0	0	0	8	10	91	237	237	36	1	0	0	620	
FLINT	0	0	0	4	6	77	206	163	35	0	0	0	493	
GRAND RAPIDS	0	0	0	4	6	60	201	103	23	0	0	0	400	
HOUGHTON LAKE	0	0	0	1	8	41	120	62	11	0	0	0	241	
LANSING	0	0	0	8	11	80	208	138	37	5	0	0	487	
MARQUETTE U	0	0	0	0	5	40	162	70	3	0	0	0	280	
MUSKOGON	0	0	0	0	3	38	173	137	27	1	0	0	379	
SAULT STE MARIE	0	0	0	0	0	14	61	51	-0	0	0	0	126	
MINNESOTA														
DULUTH	0	0	0	0	0	19	115	15	0	0	0	0	149	
INTERNATIONAL FALLS	0	0	0	0	3	43	175	38	0	0	0	0	259	
MINNEAPOLIS	0	0	0	5	18	93	369	127	6	1	0	0	619	
ROCHESTER	0	0	0	4	12	65	302	97	7	0	0	0	487	
ST CLOUD	0	0	0	2	6	54	271	60	1	0	0	0	394	
MISSISSIPPI														
JACKSON	25	8	91	64	279	298	487	451	223	57	34	19	2036	
MERIDIAN	27	6	106	79	301	329	542	507	269	49	22	3	2240	
MISSOURI														
COLUMBIA REGIONAL	0	0	12	19	74	124	449	232	30	13	0	0	953	
KANSAS CITY	0	0	4	13	109	176	538	264	47	8	0	0	1159	
ST JOSEPH	0	0	3	16	112	194	515	211	23	3	0	0	1077	
ST LOUIS	0	0	24	36	109	164	463	300	52	25	2	0	1175	
SPRINGFIELD	0	0	23	24	104	124	453	309	43	15	0	0	1095	
MONTANA														
BILLINGS	0	0	0	1	2	158	324	78	7	2	0	0	572	
GLASGOW	0	0	0	0	0	113	268	62	3	0	0	0	451	
GREAT FALLS	0	0	0	0	0	148	253	54	11	7	0	0	473	
HAVRE	0	0	0	4	0	138	260	55	8	0	0	0	465	
HELENA	0	0	0	0	0	102	190	31	0	0	0	0	323	
KALISPELL	0	0	0	0	0	83	89	43	0	0	0	0	215	
MILES CITY	0	0	0	0	2	182	407	101	14	0	0	0	711	
MISSOULA	0	0	0	0	0	106	128	68	1	0	0	0	303	

MONTHLY AND SEASONAL COOLING DEGREE DAYS

(Base 65°F)

State and Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total for Season	Normals Jan.-Dec.
NEBRASKA														
GRAND ISLAND	0	0	0	6	77	189	541	159	56	6	0	0	1034	
LINCOLN	0	0	0	14	57	215	589	197	46	10	0	0	1128	
NORFOLK	0	0	0	4	34	164	506	149	50	4	0	0	911	
NORTH PLATTE	0	0	0	5	24	117	394	115	40	3	0	0	648	
OMAHA	0	0	0	11	52	182	540	193	39	4	0	0	1021	
SCOTT'S BLUFF	0	0	0	0	24	192	363	135	15	0	0	0	729	
VALENTINE	0	0	0	4	13	144	446	171	25	3	0	0	806	
NEVADA														
ELKO	0	0	0	0	4	97	185	68	6	0	0	0	360	
ELY	0	0	0	0	0	63	102	30	14	0	0	0	209	
LAS VEGAS	0	0	24	43	394	731	744	713	559	195	0	0	3403	
RENO	0	0	0	0	2	47	118	71	20	0	0	0	258	
WINNEVOCCA	0	0	0	0	19	184	236	112	29	0	0	0	580	
NEW HAMPSHIRE														
CONCORD	0	0	0	3	9	40	118	92	40	0	0	0	302	
MT WASHINGTON OBS	0	0	0	0	0	0	0	0	0	0	0	0	0	
NEW JERSEY														
ATLANTIC CITY	0	0	0	19	44	121	319	292	103	2	6	0	906	
ATLANTIC CITY U	0	0	0	10	18	104	334	266	91	0	1	0	824	
NEWARK	0	0	0	28	64	172	381	361	115	1	3	0	1125	
TRENTON U	0	0	0	23	46	141	336	311	112	1	7	0	977	
NEW MEXICO														
ALBUQUERQUE	0	0	0	5	144	464	380	247	107	6	0	0	1353	
CLAYTON	0	0	0	4	92	205	303	130	31	3	0	0	768	
ROSWELL	0	0	11	45	283			299	95	16	0	0		
NEW YORK														
ALBANY	0	0	0	11	12	59	157	111	35	0	1	0	386	
BINGHAMTON	0	0	0	12	5	42	168	128	17	0	0	0	372	
BUFFALO	0	0	0	0	7	71	163	158	29	0	0	0	428	
NEW YORK U	0	0	0	19	47	155	385	360	115	1	6	0	1088	
NEW YORK KENNEDY	0	0	0	7	24	116	366	342	111	1	1	0	968	
NEW YORK LA GUARDIA	0	0	0	16	35	149	371	338	104	0	4	0	1017	
ROCHESTER	0	0	0	13	14	88	204	181	40	0	0	0	540	
SYRACUSE	0	0	0	14	6	77	148	128	31	1	0	0	405	
NORTH CAROLINA														
ASHEVILLE	0	0	0	3	65	82	254	234	92	1	0	0	731	
CAPE HATTERAS R	7	0	13	54	146	283	390	399	318	42	20	0	1672	
CHARLOTTE	0	0	20	38	152	223	375	346	158	15	10	0	1337	
GREENSBORO	0	0	8	28	101	176	366	333	144	15	18	0	1189	
RALEIGH	0	0	25	51	130	210	363	367	169	9	21	0	1325	
WILMINGTON	25	0	52	101	208	321	443	449	294	53	32	0	1978	
NORTH DAKOTA														
BISMARCK	0	0	0	0	0	61	287	61	0	0	0	0	409	
FARGO	0	0	0	0	9	75	281	75	3	1	0	0	444	
WILLISTON	0	0	0	2	0	92	295	51	0	0	0	0	440	
OHIO														
AKRON	0	0	0	13	33	90	222	196	29	1	1	0	585	
CINCINNATI ABBE OB	0	0	13	32	89	140	348	326	63	10	3	0	1024	
CLEVELAND	0	0	0	14	18	91	231	180	30	3	2	0	569	
COLUMBUS	0	0	4	20	58	117	296	286	52	3	0	0	636	
MANSFIELD	0	0	0	16	30	103	246	215	27	2	1	0	640	
TOLEDO	0	0	0	4	25	91	243	206	34	5	0	0	608	
YOUNGSTOWN	0	0	0	15	21	74	162	143	21	0	1	0	437	
OKLAHOMA														
OKLAHOMA CITY	0	0	22	26	217	280	553	426	80	47	0	0	1651	
TULSA	0	0	47	48	232	270	641	419	71	40	2	0	1770	
OREGON														
ASTORIA	0	0	0	0	0	0	5	11	13	0	0	0	29	
BURNS U	0	0	0	0	4	114	145	127	18	0	0	0	406	
EUGENE	0	0	0	0	3	57	127	143	110	0	0	0	440	
MEACHAM	0	0	0	0	0	40	60	76	18	0	0	0	194	
MEDFORD	0	0	0	0	7	120	224	262	155	0	0	0	768	
PENDLETON	0	0	0	0	9	219	272	332	122	4	0	0	958	
PORTLAND	0	0	0	0	1	60	102	144	102	0	0	0	409	
SALEM	0	0	0	0	0	34	78	108	78	0	0	0	298	
SEXTON SUMMIT R	0	0	0	0	0	32	76	83	141	16	0	0	348	
PACIFIC AREA														
GUAM TAGUAC R	393	389	396	430	461	427	427	434	427	465	444	430	5123	
JOHNSTON	406	346	383	390	439	478	487	494	492	507	434	403	5205	
KOROR R	504	476	504	505	555	513	517	540	526	535	524	519	6218	
KWAJALEIN	521	476	538	480	526	503	545	518	509	523	517	525	6181	
MAJURO	459	449	497	468	498	475	492	503	486	505	487	481	5810	
PAGO PAGO	488	396	469	447	421	435	448	414	472	497	462	471	5420	
PONAPE R	464	467	501	480	506	446	464	489	463	476	476	497	5729	
TRUK MUSEN ISLAND	508	459	525	511	536	499	507	512	502	513	508	526	6106	
WAKE	368	319	343	370	431	464	474	516	470	512	445	416	5138	
YAP R	452	455	497	493	501	466	494	511	474	489	477	490	5799	
PENNSYLVANIA														
ALLENTOWN	0	0	0	16	40	84	266	236	52	0	0	0	696	
ERIE	0	0	0	5	9	55	120	114	25	0	0	0	324	
HARRISBURG	0	0	0	34	79	176	401	381	88	1	3	0	1103	
PHILADELPHIA	0	0	0	24	55	179	373	374	145	5	12	0	1165	
PITTSBURGH	0	0	0	13	19	66	256	247	45	5	4	0	657	
SCRANTON	0	0	0	10	28	52	194	117	46	0	0	0	447	
WILLIAMSPORT	0	0	0	11	26	63	217	204	43	0	0	0	504	
RHODE ISLAND														
BLOCK ISLAND	0	0	0	0	0	32	157	227	64	0	0	0	480	
PROVIDENCE	0	0	0	7	27	79	242	244	66	0	1	0	666	

MONTHLY AND SEASONAL COOLING DEGREE DAYS

(Base 65°F)

State and Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total for Season	Normals Jan.- Dec.
SOUTH CAROLINA														
CHARLESTON	41	7	63	80	288	319	417	450	312	46	18	3	2044	
CHARLESTON U	35	6	74	107	298	380	462	434	297	69	32	0	2194	
COLUMBIA	29	8	65	116	316	388	511	432	249	51	29	1	2195	
GRNVLLE-SPRTNBRG	1	0	17	26	153	222	408	386	193	19	10	0	1435	
SOUTH DAKOTA														
ABERDEEN	0	0	0	0	13	99	393	145	20	3	0	0	673	
HURON	0	0	0	0	16	109	448	166	24	1	0	0	771	
RAPID CITY	0	0	0	1	3	143	390	132	28	0	0	0	697	
SIOUX FALLS	0	0	0	2	23	118	450	126	26	6	0	0	751	
TENNESSEE														
BRISTOL	0	0	0	9	73	102	286	254	73	5	1	0	803	
CHATTANOOGA	0	0	3	11	97	124	338	343	132	8	2	0	1058	
KNOXVILLE	0	0	9	39	142	179	399	365	171	19	17	0	1340	
MEMPHIS	6	0	46	59	228	299	550	445	138	46	23	0	1840	
NASHVILLE	0	0	16	39	191	203	410	399	130	30	22	0	1440	
OAK RIDGE	0	0	1	20	103	116	330	295	86	2	0	0	953	
TEXAS														
ABILENE	0	7	113	102	354	480	607	430	104	62	8	0	2267	
AMARILLO	0	0	6	52	228	306	449	274	81	20	0	0	1396	
AUSTIN	6	21	160	158	398	463	606	513	229	157	34	6	2791	
BROWNSVILLE	83	75	299	329	520	485	534	624	458	275	130	59	3871	
CORPUS CHRISTI	52	60	243	276	498	486	587	637	410	289	97	32	3667	
DALLAS FT WORTH	0	2	115	101	341	419	660	563	202	153	20	2	2578	
DEL RIO	2	10	178	237	489	565	654	584	278	177	23	2	3199	
EL PASO	0	0	19	84	338	540	459	378	181	54	0	0	2053	
GALVESTON	10	14	94	178	385	481	561	553	335	253	68	7	2939	
HOUSTON INTERCON	24	33	158	132	374	454	558	519	295	196	60	18	2821	
LUBBOCK	0	0	30	78	330	413	491	300	80	18	0	0	1740	
MIDLAND	0	0	58	109	394	488	575	455	136	50	5	0	2270	
PORT ARTHUR	27	15	130	153	362	423	524	505	305	143	58	20	2665	
SAN ANGELO	3	4	120	147	349	481	597	460	159	87	15	0	2422	
SAN ANTONIO	11	22	171	188	387	439	568	506	239	124	34	5	2684	
VICTORIA	20	38	207	225	458	494	613	594	346	271	75	17	3358	
WACO	0	5	138	128	382	461	683	610	225	169	31	2	2834	
WICHITA FALLS	0	0	85	80	356	454	676	512	135	73	6	0	2377	
UTAH														
MILFORD	0	0	0	0	20	172	266	184	66	0	0	0	708	
SALT LAKE CITY	0	0	0	2	31	303	446	298	106	3	0	0	1191	
WENDOVER	0	0	0	11	85	352	462	320	118	0	0	0	1348	
VERMONT														
BURLINGTON	0	0	0	5	9	89	171	140	27	1	0	0	442	
VIRGINIA														
LYNCHBURG	0	0	3	30	75	113	298	296	103	7	10	0	935	
MORFORK	3	0	16	64	124	244	419	390	213	26	32	0	1531	
RICHMOND	0	0	10	58	106	180	377	340	141	21	26	0	1259	
ROANOKE	0	0	7	27	82	117	303	267	83	3	12	0	901	
WALLOPS ISLAND	0	0	0	16	46	147	334	307	137	5	13	0	1005	
WASHINGTON														
OLYMPIA	0	0	0	0	0	6	30	50	22	0	0	0	118	
QUILLAYUTE	0	0	0	0	0	0	10	3	27	0	0	0	40	
SEATTLE	0	0	0	0	0	12	42	76	54	0	0	0	184	
SEATTLE-TACOMA	0	0	0	0	0	36	38	62	60	0	0	0	196	
SPOKANE	0	0	0	0	0	137	134	127	7	0	0	0	405	
STAMPEDE PASS R	0	0	0	0	0	0	22	48	7	0	0	0	77	
WALLA WALLA U	0	0	0	0	13	230	296	311	114	4	0	0	968	
YAKIMA	0	0	0	0	3	174	153	192	24	0	0	0	546	
WEST INDIES														
SAN JUAN P.R.	390	368	424	442	511	558	586	575	544	549	455	418	5820	
WEST VIRGINIA														
BECKLEY	0	0	1	12	35	51	112	112	22	0	0	0	345	
CHARLESTON	0	0	14	43	99	118	292	275	62	6	1	0	910	
ELKINS	0	0	0	1	15	35	81	85	27	0	0	0	244	
HUNTINGTON	0	0	21	45	100	130	332	279	69	8	7	0	991	
PARKERSBURG U	0	0	13	28	87	115	285	273	70	2	3	0	876	
WISCONSIN														
GREEN BAY	0	0	0	7	6	35	175	87	13	0	0	0	323	
LA CROSSE	0	0	0	10	15	74	343	137	23	0	0	0	602	
MADISON	0	0	0	9	17	68	228	102	31	2	0	0	457	
MILWAUKEE	0	0	0	3	6	36	210	98	32	1	0	0	386	
WYOMING														
CASPER	0	0	0	0	0	109	243	47	7	0	0	0	406	
CHEYENNE	0	0	0	0	4	88	173	67	17	0	0	0	349	
LANDER	0	0	0	0	1	138	243	73	12	0	0	0	467	
SHERIDAN	0	0	0	0	0	119	248	39	4	0	0	0	410	

STORM SUMMARY

DECEMBER 1974

[illegible]

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

DECEMBER 1974

Herbert J. Thompson and Raymond J. Haley
Office of Hydrology

There was no major flooding during December although there was a continuation of the serious November flooding on several east Texas streams with additional damage reported along the Upper Trinity River. Heavy rain combined with snow melt caused moderate flooding in the Mohawk and Upper Susquehanna and Delaware Basins in New York. Significant flooding occurred in the Raritan Basin in New Jersey, the Christiana River Basin in northern Delaware, the Upper Tombigbee, Big Black, and Pascagoula Basins and along the entire Pearl River in Mississippi, the Ouachita River in Arkansas, the Calcasieu River in western Louisiana, and Pacific coastal streams in northern Oregon and Washington.

Severe urban flooding occurred in San Diego and Los Angeles, California, and flash flooding was reported

on Opequan Creek in West Virginia.

Some minor flooding was reported in several areas, including the lower Delaware Basin in Pennsylvania and New Jersey, along several coastal streams in the Carolinas, the Little Wabash River in Illinois, the White and Cache Rivers and lower Arkansas Basin in Arkansas, and several streams in southeast Texas.

Hydrologic events of unusual significance or involving loss of life or property are discussed in more detail below.

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
ATLANTIC SLOPE DRAINAGE			
Mohawk River Basin	On the 8th moderate to heavy rain of up to 2.5 inches falling on 10 inches of snow in the headwaters of Schoharie Creek caused crests of 3 feet over flood stage at Middleburg, N. Y., and near flood stage at Burtonsville, N. Y., the morning of the 9th. The occupants of 5 house trailers along State Route 30 were evacuated as a precautionary measure. Peak discharge from the Gilboa Dam spillway was 22,000 c.f.s.	0	N.A.
Raritan River Basin	Above normal precipitation occurred over the basin during December, averaging about 5 inches. There were two periods of heavy rainfall; the 2d and the 16th, both caused by low pressure centers moving northeastward up the coast. Significant rises occurred throughout the Raritan Basin during both storms, with the Millstone River going 2 feet over flood stage at Blackwells Mills, N. J. The Raritan River is believed to have crested slightly over flood stage at Bound Brook, N. J., although the telemark was inoperative on that day.	0	N.A.
Delaware River Basin	A wave developing and moving along a nearly stationary warm front along the East Coast on the 8th caused rains in excess of 4 inches over the Brodhead Creek Basin in the Pocono Mountains of eastern Pennsylvania. Promise Land State Park received 4.6 inches of rain. Flooding occurred along small streams in the area with Routes 447 and 171 being closed by the State Police. Six families were evacuated by Civil Defense along Brodhead Creek. There are no reporting stations on streams in that area.	0	N.A.
	The storm of the 16th which caused flooding in the Raritan Basin in New Jersey also affected several tributaries of the Delaware River. Crests slightly		

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

DECEMBER 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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ATLANTIC SLOPE DRAINAGE-Continued

over flood stage were reported on Neshaminy Creek at Langhorne, Pa., and Assunpink Creek at Trenton, N. J. More than 2 feet of flooding was reported on the East Branch of the Delaware at Fishs Eddy, N. Y.

Christiana River	The storm of the 16th mentioned above caused heavy rainfall over northern Delaware with serious road and highway flooding in all sections of New Castle County. More than 2 feet of flooding occurred on the Christiana River at Newark, Del.	0	N.A.
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Susquehanna River Basin	Rainfall averaging 1 to 1.5 inches over the headwaters of the Susquehanna caused rapid snow melt with strong rises to bankfull stages on a number of headwater tributaries on the 8th-9th. Some overflow occurred along the east branch of the Tioughnioga River near Truxton, N. Y., on the 9th.	0	N.A.
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Potomac River Basin	Flash flooding occurred along Opequan Creek on the 2d as a result of rain in excess of 4 inches the previous night. The stream crested about 6 feet over bankfull near Kearneysville, W. Va.		
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Coastal Streams in North Carolina	Precipitation was frequent and occasionally heavy with most reporting stations having measurable amounts on 15 or more days and monthly totals averaging about one inch above normal for the state. Heavy rain occurred on the 1st, 7th, and 25th, with minor flooding on the lower Roanoke River due to releases from reservoirs upstream and on the middle reach of the Cape Fear River.	0	0
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Coastal Streams in South Carolina	Monthly precipitation totals were up to 50 percent above normal, ranging from about 4 inches in the headwaters to 6 inches along the coast. The Lumber River fluctuated slightly over flood stage most of the month. Minor lowland flooding occurred on the Little Pee Dee and Pee Dee Rivers and on the Saluda and Broad Rivers in the Santee Basin.	0	0
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EAST GULF OF MEXICO DRAINAGE

Tombigbee, Pascagoula, and Pearl River Basin	Monthly precipitation totals were generally well above normal, ranging from 3.5 to 5 inches over the coastal area to nearly 14 inches over the headwaters. Although rainfall was frequent throughout the month, the heaviest rains occurred near the end of the first week and during the last week of the month. The storm early in the month caused substantial rises on most streams, but the only flooding was along the middle and lower reaches of the Pearl River with crests up to 5 feet over flood stage. Beginning on the 23d, a series of storms brought rain totaling more than 4 inches over much of central Mississippi and Alabama. Minor flooding occurred on a number of streams, including Old Town Creek in the Tombigbee Basin, the East Fork of the Tombigbee River, Tallahala Creek in the Pascagoula Basin, and the Yockanookany River in the Pearl Basin. More significant flooding occurred on Tibbee Creek and the Upper Tombigbee River, with crests up to 6 feet over flood stage. Heavy inflow from the Black Warrior River which crested just short	0	N.A.
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GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

DECEMBER 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
EAST GULF OF MEXICO DRAINAGE-Continued			
	of flood stage caused some flooding below Demopolis on the lower Tombigbee. Significant flooding also occurred on the Upper Chickasawhay River in the Pascagoula Basin with a crest 6.5 feet over flood stage at Enterprise, Miss., and along the entire length of the Pearl River where crests ranged from 1 to more than 12 feet over flood stage. Flooding was generally confined to agricultural and timber lands with evacuation of livestock and equipment minimizing damage.		
UPPER MISSISSIPPI BASIN			
Upper Mississippi Main Stem	Navigation on the Upper Mississippi River closed at St. Paul, Minn., on the 11th and at La Crosse, Wis., and Guttenberg, Iowa, on the 15th. There was no flooding anywhere in the Basin during the month with all streams at relatively low flows.		
MISSOURI BASIN			
	There was no flooding in the basin during December. Precipitation was below normal to normal. Temperatures were above normal over much of the basin which slowed the formation of river ice. There were no ice jam problems during the month.		
OHIO BASIN			
Ohio Basin	Precipitation was frequent during the month with totals ranging from about 75 percent of normal over the extreme lower portion of the basin to more than 150 percent of normal over the upper portion, much of which occurred as snow. Many streams experienced rises to one-half to three-quarters bankfull. Minor flooding occurred on the upper Little Wabash River in Illinois. The Ohio River ended the month around half bankfull--somewhat higher than normal.	0	0
WHITE BASIN			
Cache and White Rivers	Flooding continued from November on the Cache River at Patterson, Ark., and the White River at Augusta ending early in the month. However, sufficient rain fell over the saturated Cache Basin to bring the stream back to slightly over flood stage from the 14th to the 20th.	0	N.A.
ARKANSAS BASIN			
Upper and Middle Arkansas Basin	Precipitation totals for the month were generally above normal over the area ranging up to 200 percent of normal over south-central Kansas. However, there was no flooding reported with rises on streams cresting at one third to two thirds bankfull.	0	0
Lower Arkansas Basin	Precipitation totals for the month were generally below normal over the area with the heaviest rainfall on the 6th-7th when amounts of up to 2 inches caused light flooding on the lower Poteau River. Minor flooding occurred on the Fourche La Pave River on the 1st as a result of late November rainfall.	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

DECEMBER 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
RED BASIN			
Sulphur River	Flooding continued from November on the Sulphur River cresting at Hagansport, Texas, on the 1st about 3 feet over flood stage. Downstream at Naples, Texas, flooding continued until the 21st augmented by rains of about 1 inch during the first week of December and cresting on the 11th more than 4 feet over flood stage.	0	N.A.
Ouachita River Basin	Precipitation totals were near normal over the basin in December. Flooding continued at Camden, Ark., until the 18th as a result of November rainfall, with a crest 6.7 feet over flood stage on the 3d.	0	N.A.
LOWER MISSISSIPPI BASIN			
Big Black River (Mississippi)	Precipitation totals ranged up to the nearly 14 inches reported over the headwaters of the stream. Two periods of heavy rain occurred, both of which caused flooding along the upper Big Black River. One storm at the end of the first week of the month resulted in a crest of 4.5 feet over flood stage at West. The second storm during the last week caused a crest 7 feet over flood stage at West with flooding downstream which continued into January. Farm and timber lands were affected with evacuation of lives-stock and equipment necessary.	0	N.A.
WEST GULF OF MEXICO DRAINAGE			
Calcasieu River Basin	Monthly rainfall totals ranged from 5-6 inches over the lower portion of the basin to 9-10.5 inches over the middle and upper portions. Heaviest periods of rain were in the first and last weeks of the month. Moderate flooding occurred from both storms with the first period of flooding confined to the upper reach of the river cresting 3 feet over flood stage at Hineston, La. The second period of flooding continued into January with a crest 4.4 feet over flood stage at Hineston and minor flooding downstream to Kinder, La.	0	N.A.
Sabine River (Texas)	Flooding which began in late October or early November continued on the upper Sabine from Emory to Gladewater and began at Longview on the 1st with a crest there 6 feet over flood stage on the 5th. The duration of the flooding was extended by rains of about 1 inch during the first week of December and lasted most of the month. The lower Sabine was running near bankfull early in the month due to releases from Toledo Bend Reservoir. Rains of 1 to 2 inches on the 6th-7th caused the stream to go over flood stage on the 9th and an additional 4 to 5 inches from the 24th to the 30th caused a crest 1.1 feet over flood stage at Deweyville on the 31st. Flooding continued into January on the lower Sabine.	0	N.A.
Neches River Basin (Texas)	Flooding continued on the Angelina River at Lufkin from November and lasted all of December sustained by rains totaling up to 3.5 inches over the basin. Rains of about 2 inches during the week ending on the 16th	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

DECEMBER 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
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WEST GULF OF MEXICO DRAINAGE-Continued

caused minor flooding on Attoyac Bayou. Minor flooding also occurred on the upper Neches from Alto to Diboll. The lower Neches and some tributaries had several periods of lowland flooding from rains of 2 to 5 inches.

Trinity River Basin (Texas)	The major flooding of November continued into December along the upper Trinity from Trinidad to Long Lake aided by rains of up to 3.5 inches. Additional damage of \$369,500 was reported which was primarily agricultural with 38,600 acres inundated. Brief periods of minor flooding occurred at Dallas and on Richland Creek, a headwater tributary. The East Fork of the Trinity continued in flood the entire month with a crest 1 foot over flood stage on the 12th. The lower Trinity also continued above flood stage from below Romayor to Moss Bluff due to releases from Lake Livingston and rains of 3 to 4 inches on the 6th-15th and 2 to 3 inches on the 24th-30th. Flooding continued into January at Moss Bluff.	0	N.A.
San Jacinto River Basin (Texas)	Some flooding occurred along the San Jacinto River with rain during the first two weeks of the month amounting to about 6 inches over the East Fork and 3.5 inches over the West Fork drainage. There are no river reporting stations in the basin.	0	N.A.
Brazos River Basin (Texas)	Flooding continued from November early in the month on the lower Navasota River. Rainfall of 2 to 3 inches during the period of the 5th-15th caused several days of light flooding along the Navasota the middle of the month.	0	N.A.
Guadalupe River (Texas)	The serious flooding of November continued into December on the lower Guadalupe at Dupont with a crest 6.5 feet over flood stage on the 1st.	0	N.A.

PACIFIC SLOPE DRAINAGE

San Diego River Basin	Severe urban flooding occurred in the San Diego area in southern California on the 4th. Overflow also occurred along the San Diego River. Various portions of the Mission Valley Community were flooded.	0	N.A.
Los Angeles River Basin	Severe urban flooding occurred in the Los Angeles area on the 4th. Rainfall totals for the storm of the 3d-4th ranged from 2.3 to 4.9 inches over the area. Hardest hit was the Carson-Lomita section with water estimated to be 10 feet deep in the 1000 block of 225th Street and 3 to 7 feet deep elsewhere in a two square mile area bounded by Sepuveda Boulevard, Figueroa Street, the Harbor Freeway exit ramps, and Lomita Boulevard. The flooding was augmented by a high tide which affected storm drainage facilities. The Los Angeles River crested at 4 a.m. at the gage near Downey (F34R) at a stage of 8.80 feet and a discharge of 54,000 c.f.s. Flood stage at this gage is 23 feet. Although the river did not go over flood stage, this is one of the highest flows of record. The maximum discharge of record is 79,700 c.f.s.,	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

DECEMBER 1974

Basins and Streams	FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
PACIFIC SLOPE DRAINAGE-Continued			
	which occurred March 2, 1938. Damage from this storm was estimated at several million dollars; however no breakdown as to wind, rain, or flood damage was available.		
Central and North Coastal Basins in California	December rainfall was quite variable and somewhat above normal in some areas. Monthly totals ranged from 4 to 10 inches over the Russian River Basin, 4 to 6 inches over the Napa River Basin, 2.5 to 4.5 inches over the Pajaro River Basin, and 1 to 5 inches over the Salinas River Basin. There were two periods of significant rainfall, the 1st-5th and the 26th-28th. Strong rises occurred on the Russian and Napa Rivers, cresting at about half bankfull on the 4th and 28th. Rises on the Salinas and Pajaro Rivers were not significant.	0	0
	Rainfall averaging about 2.5 inches in 11 hours on the 27th over the Smith River Basin caused a crest of 24.8 feet, just short of the warning stage of 25 feet.		
Coastal Streams in Southern Oregon	Precipitation was above normal with heavy rainfall the last few days of the month causing streams to rise to near bankfull. The South Fork of the Coquille River crested about 1 foot below flood stage at Myrtle Point.	0	0
North Coastal and Willamette Basins (Oregon)	Precipitation over this area was much above normal with almost daily rainfall. Monthly totals ranged from 8 to 13 inches over the Willamette Valley, 11 to 21 inches over the northern Cascades, and 15 to 31 inches over the northern Coast Range. The only flooding resulted from rains of 8 to 10 inches during the period of the 17th-22d over the northern Coast Range. On the 20th daily totals of 3 to 4.5 inches were common. Sharp rises occurred on streams draining the area both toward the coast and into the Willamette River. Along the coast minor flooding occurred on the Wilson River and moderate flooding on the Siletz River with a crest 3.6 feet over flood stage on the 20th at Siletz. In the Willamette Basin light flooding occurred along the upper reach of the South Yamhill River and several other tributaries went over their banks in places. Flooding was confined to cropland with damage relatively minor at this season of the year.	0	N.A.
North Coastal Streams in Washington	A Pacific frontal system developed just west of the Oregon coast on the morning of the 19th and moved north-eastward. By 4 p.m. PST, the warm front of the system lay in an arc from Pendleton, Ore., to Cape Flattery on the Washington coast. Warm air enveloped all of western Washington and most of the Cascade Mountains in Washington State.	0	N.A.
	The freezing level in the free air rose to 5800 feet at 4 p.m. and the snow level was near 4000 feet.		
	By 4 a.m. on the 20th snow over the west slopes of the Cascades had turned to heavy rain, especially in the Snoqualmie and Skykomish River Basins. Twenty-four hour amounts of rain ranged from 1.5 to 3.0		

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

DECEMBER 1974

Basins
and
Streams

FLOOD EVENT

Lives
Lost

Preliminary Estimate
of Property Damage
(thousands of dollars)

PACIFIC SLOPE DRAINAGE-Continued

inches in those watersheds. Lesser amounts were recorded elsewhere.

The warm rain continued at elevations up to 6000 feet during the day on the 20th and by 4 p.m. the freezing level had risen to 7200 feet. Rain was again heavy in the interval between 1 p.m. on the 20th and 7 a.m. on the 21st. Some of this occurred ahead of a cold front that moved across the ocean beaches at about midnight between the 20th and 21st and then moved to the Cascade Mountains by 4 a.m. on the 21st. By that latter time, the freezing level had dropped again to 2800 feet. Rain turned to snow in the mountains as the cold front passed.

Streams in western Washington began to rise rapidly on the 19th cresting on the 21st and 22d with several reaching or exceeding flood stage.

Flooding was reported on small streams draining the west slope of the Cascades and the west side of the Olympic Peninsula. However, no observations are received from these streams. In the Snohomish River Basin crests slightly over flood stage were reported on the Skykomish and Snoqualmie tributaries and the Snohomish River crested 3 feet over flood stage at Snohomish. Damage estimates are not yet available but are not believed to be excessive, particularly at this season.

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2.

FLOOD STAGE DATA

(All dates in December unless otherwise specified)

DECEMBER

River and station	Flood stage	Above flood stages —dates		Crest		River and station	Flood stage	Above flood stages —dates		Crest	
		From	To	Stage	Date			From	To	Stage	Date
Navasota-Continued:	Ft			Ft			Ft			Ft	
Reynolds, Tex. River	12	Nov 28	4	14.67	Nov 27						
		14	19	12.93	10						
Cuadalupe:											
Reynolds, Tex.	20	Nov 25	18	26.5	1						
PACIFIC SLOPE DRAINAGE											
Siletz:											
Siletz, Ore.	16	20	20	15.6	20						
Wilson:											
Tillamook, Ore.	11	20	21	11.8	20						
Willamina, Ore.	8	20	21	9.9	20						
Goldbar, Wash.	11	21	21	19.4	21						
Carnation, Wash.	14	21	22	15.34	21						
Deming, Wash.	15	21	21	18.06	21						
Nooksack:											
Deming, Wash.	11	21	21	11.9	11						

A See previous monthly reports for
Additional crest information.

RAWINSONDE DATA

Average monthly values

DECEMBER 1976

BARROW, AK 1037 MB										BARROW, AK 830 MB										BARROW, AK 930 MB										BARROW, AK 930 MB										BARROW, AK 930 MB									
Wind										Wind										Wind										Wind										Wind									
Speed (kts)										Speed (kts)										Speed (kts)										Speed (kts)										Speed (kts)									
Direction										Direction										Direction										Direction										Direction									
Temperature										Temperature										Temperature										Temperature										Temperature									
Dry Bulb										Dry Bulb										Dry Bulb										Dry Bulb										Dry Bulb									
Wet Bulb										Wet Bulb										Wet Bulb										Wet Bulb										Wet Bulb									
Relative Humidity										Relative Humidity										Relative Humidity										Relative Humidity										Relative Humidity									
Sea Level										Sea Level										Sea Level										Sea Level										Sea Level									
Pressure										Pressure										Pressure										Pressure										Pressure									
Height										Height										Height										Height										Height									
Time										Time										Time										Time										Time									
562	31	86	-2.3	-4.9	28	1.1	1.1	1.1	1.1	562	31	86	-2.3	-4.9	28	1.1	1.1	1.1	1.1	562	31	86	-2.3	-4.9	28	1.1	1.1	1.1	1.1	562	31	86	-2.3	-4.9	28	1.1	1.1	1.1	1.1	562	31	86	-2.3	-4.9	28	1.1	1.1	1.1	1.1

ATKINS, AK 949 MB										BARROW, AK 1016 MB										BARROW, AK 1013 MB										BARROW, AK 994 MB										BARROW, AK 954 MB									
Wind										Wind										Wind										Wind										Wind									
Speed (kts)										Speed (kts)										Speed (kts)										Speed (kts)										Speed (kts)									
Direction										Direction										Direction										Direction										Direction									
Temperature										Temperature										Temperature										Temperature										Temperature									
Dry Bulb										Dry Bulb										Dry Bulb										Dry Bulb										Dry Bulb									
Wet Bulb										Wet Bulb										Wet Bulb										Wet Bulb										Wet Bulb									
Relative Humidity										Relative Humidity										Relative Humidity										Relative Humidity										Relative Humidity									
Sea Level										Sea Level										Sea Level										Sea Level										Sea Level									
Pressure										Pressure										Pressure										Pressure										Pressure									
Height										Height										Height										Height										Height									
Time										Time										Time										Time										Time									
562	31	246	-4.7	-1.8	28	1.1	1.1	1.1	1.1	562	31	246	-4.7	-1.8	28	1.1	1.1	1.1	1.1	562	31	246	-4.7	-1.8	28	1.1	1.1	1.1	1.1	562	31	246	-4.7	-1.8	28	1.1	1.1	1.1	1.1	562	31	246	-4.7	-1.8	28	1.1	1.1	1.1	1.1

BARROW, AK 922 MB										BARROW, AK 1019 MB										BARROW, AK 1017 MB										BARROW, AK 994 MB		
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Average monthly values

Average monthly values

28

RAWINSONDE DATA

Average monthly values

NOVEMBER 1974

GRAND JUNCTION, CO 854 MB										GREAT FALLS, MT 885 MB										GREEN BAY, WI 949 MB										GREENSBORO, NC 984 MB										SIOUX FALLS, SD 1007 MB										
Rawinsonde surface only										Rawinsonde surface only										Rawinsonde surface only										Rawinsonde surface only										Rawinsonde surface only										
Time of observations										Time of observations										Time of observations										Time of observations										Time of observations										
Drift in height										Drift in height										Drift in height										Drift in height										Drift in height										
Temperature										Temperature										Temperature										Temperature										Temperature										
Dew Point										Dew Point										Dew Point										Dew Point										Dew Point										
Wind Dir										Wind Dir										Wind Dir										Wind Dir										Wind Dir										
Wind Speed										Wind Speed										Wind Speed										Wind Speed										Wind Speed										
No. of observations										No. of observations										No. of observations										No. of observations										No. of observations										
1000	31	1472	-5.8	-10.3	14	1.4	1.1	1.1	1.1	1118	-1.0	-7.8	22	6.8	31	210	-5.2	-7.5	27	1.3	31	275	2.5	-1.3	76	1.0	31	23	14.5	7.5	34	2.6	31	23	14.5	7.5	34	2.6	31	23	14.5	7.5	34	2.6	31	23	14.5	7.5	34	2.6
950	31	1522	-4.4	-11.0	13	1.7	1.1	1.4	1.4	1144	-2.8	-11.3	25	10.3	31	1404	-5.4	-13.8	27	4.9	31	1474	2.8	-4.4	28	9.1	31	1515	7.4	-5.0	26	4.2	31	1515	7.4	-5.0	26	4.2	31	1515	7.4	-5.0	26	4.2	31	1515	7.4	-5.0	26	4.2
900	31	1572	-3.0	-11.7	11	1.4	1.1	1.4	1.4	1172	-2.8	-12.5	20	10.2	31	1879	-6.7	-15.9	27	6.4	31	1963	1.4	-4.4	27	11.8	31	2018	7.7	-5.9	32	4.7	31	2018	7.7	-5.9	32	4.7	31	2018	7.7	-5.9	32	4.7	31	2018	7.7	-5.9	32	4.7
850	31	1622	-1.6	-12.4	9	1.4	1.1	1.4	1.4	1222	-2.8	-13.1	18	10.2	31	2184	-8.7	-18.1	28	6.7	31	2281	-2.2	-14.8	27	13.5	31	2349	7.7	-12.0	31	5.4	31	2349	7.7	-12.0	31	5.4	31	2349	7.7	-12.0	31	5.4	31	2349	7.7	-12.0	31	5.4
800	31	1672	0.8	-13.1	7	1.4	1.1	1.4	1.4	1272	-2.8	-13.8	16	11.5	31	2295	-10.7	-20.5	28	8.1	31	2403	-0.1	-17.7	27	14.9	31	2479	7.7	-12.0	31	5.8	31	2479	7.7	-12.0	31	5.8	31	2479	7.7	-12.0	31	5.8	31	2479	7.7	-12.0	31	5.8
750	31	1722	2.4	-13.8	5	1.4	1.1	1.4	1.4	1322	-2.8	-14.5	14	12.1	31	2403	-13.3	-23.5	28	8.1	31	2514	0.2	-19.9	27	16.8	31	2599	7.7	-12.0	31	6.0	31	2599	7.7	-12.0	31	6.0	31	2599	7.7	-12.0	31	6.0	31	2599	7.7	-12.0	31	6.0
700	31	1772	4.0	-14.5	3	1.4	1.1	1.4	1.4	1372	-2.8	-15.2	12	12.3	31	2514	-16.5	-27.8	27	11.6	31	2627	-0.9	-23.8	27	19.2	31	2714	7.7	-12.0	31	7.3	31	2714	7.7	-12.0	31	7.3	31	2714	7.7	-12.0	31	7.3	31	2714	7.7	-12.0	31	7.3
650	31	1822	5.6	-15.2	1	1.4	1.1	1.4	1.4	1422	-2.8	-15.9	10	12.8	31	2627	-19.3	-30.9	28	13.1	31	2740	-3.3	-28.0	27	22.2	31	2831	7.7	-12.0	31	7.8	31	2831	7.7	-12.0	31	7.8	31	2831	7.7	-12.0	31	7.8	31	2831	7.7	-12.0	31	7.8
600	31	1872	7.2	-15.9	1	1.4	1.1	1.4	1.4	1472	-2.8	-16.6	8	13.0	31	2740	-22.5	-34.0	28	14.4	31	2851	-6.3	-31.2	27	26.1	31	2944	7.7	-12.0	31	10.1	31	2944	7.7	-12.0	31	10.1	31	2944	7.7	-12.0	31	10.1	31	2944	7.7	-12.0	31	10.1
550	31	1922	8.8	-16.6	1	1.4	1.1	1.4	1.4	1522	-2.8	-17.3	6	14.0	31	2851	-25.7	-37.0	28	15.7	31	2962	-9.3	-34.3	27	29.3	31	3059	7.7	-12.0	31	10.6	31	3059	7.7	-12.0	31	10.6	31	3059	7.7	-12.0	31	10.6	31	3059	7.7	-12.0	31	10.6
500	31	1972	10.4	-17.3	1	1.4	1.1	1.4	1.4	1572	-2.8	-18.0	4	14.6	31	2962	-28.9	-40.1	28	17.4	31	3073	-12.1	-37.6	27	33.7	31	3174	7.7	-12.0	31	11.0	31	3174	7.7	-12.0	31	11.0	31	3174	7.7	-12.0	31	11.0	31	3174	7.7	-12.0	31	11.0
450	31	2022	12.0	-18.0	1	1.4	1.1	1.4	1.4	1622	-2.8	-18.7	2	15.8	31	3073	-32.1	-43.2	28	19.1	31	3184	-15.1	-40.9	27	41.9	31	3281	7.7	-12.0	31	11.5	31	3281	7.7	-12.0	31	11.5	31	3281	7.7	-12.0	31	11.5	31	3281	7.7	-12.0	31	11.5
400	31	2072	13.6	-18.7	1	1.4	1.1	1.4	1.4	1672	-2.8	-19.4	0	16.4	31	3184	-35.3	-46.3	28	20.8	31	3295	-18.1	-43.6	27	45.0	31	3389	7.7	-12.0	31	12.0	31	3389	7.7	-12.0	31	12.0	31	3389	7.7	-12.0	31	12.0	31	3389	7.7	-12.0	31	12.0
350	31	2122	15.2	-19.4	1	1.4	1.1	1.4	1.4	1722	-2.8	-20.1	0	17.0	31	3295	-38.5	-49.4	28	22.5	31	3406	-21.1	-46.9	27	48.1	31	3499	7.7	-12.0	31	12.5	31	3499	7.7	-12.0	31	12.5	31	3499	7.7	-12.0	31	12.5	31	3499	7.7	-12.0	31	12.5
300	31	2172	17.0	-20.1	1	1.4	1.1	1.4	1.4	1772	-2.8	-20.8	0	17.6	31	3406	-41.7	-52.5	28	24.1	31	3517	-24.1	-49.4	27	51.2	31	3599	7.7	-12.0	31	13.0	31	3599	7.7	-12.0	31	13.0	31	3599	7.7	-12.0	31	13.0	31	3599	7.7	-12.0	31	13.0
250	31	2222	18.6	-20.8	1	1.4	1.1	1.4	1.4	1822	-2.8	-21.5	0	18.2	31	3517	-44.9	-55.7	28	25.7	31	3628	-27.1	-52.0	27	54.3	31	3699	7.7	-12.0	31	13.5	31	3699	7.7	-12.0	31	13.5	31	3699	7.7	-12.0	31	13.5	31	3699	7.7	-12.0	31	13.5
200	31	2272	20.2	-21.5	1	1.4	1.1	1.4	1.4	1872	-2.8	-22.2	0	18.8	31	3628	-48.1	-58.9	28	27.3	31	3739	-30.1	-54.5	27	58.5	31	3799	7.7	-12.0	31	14.0	31	3799	7.7	-12.0	31	14.0	31	3799	7.7	-12.0	31	14.0	31	3799	7.7	-12.0	31	14.0
150	31	2322	21.8	-22.2	1	1.4	1.1	1.4	1.4	1922	-2.8	-22.9	0	19.4	31	3739	-51.3	-61.7	28	29.9	31	3850	-33.1	-57.0	27	61.7	31	3949	7.7	-12.0	31	14.5	31	3949	7.7	-12.0	31	14.5	31	3949	7.7	-12.0	31	14.5	31	3949	7.7	-12.0	31	14.5
100	31	2372	23.4	-22.9	1	1.4	1.1	1.4	1.4	1972	-2.8	-23.6	0	20.0	31	3850	-54.5	-64.9	28	32.1	31	3961	-36.1	-60.0	27	64.9	31	4049	7.7	-12.0	31	15.0	31	4049	7.7	-12.0	31	15.0	31	4049	7.7	-12.0	31	15.0	31	4049	7.7	-12.0	31	15.0
50	31	2472	25.0	-23.6	1	1.4	1.1	1.4	1.4	2072	-2.8	-24.3	0	21.0	31	3961	-57.7	-67.1	28	34.7	31	4072	-39.1	-62.5	27	67.7	31	4169	7.7	-12.0	31	15.5	31	4169	7.7	-12.0	31	15.5	31	4169	7.7	-12.0	31	15.5	31	4169	7.7	-12.0	31	15.5
0	31	2522	26.6	-24.3	1	1.4	1.1	1.4	1.4	2122	-2.8	-25.0	0	21.6	31	4072	-60.1	-69.5	28	36.3	31	4183	-41.5	-65.9	27	70.3	31	4281	7.7	-12.0	31	16.0	31	4281	7.7	-12.0	31	16.0	31	4281	7.7	-12.0	31	16.0	31	4281	7.7	-12.0	31	16.0

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SAN DIEGO, CA 1004 MB												SAN JUAN, P. R. 1015 MB												SAULT STE MARIE, MI 988 MB												SHREVEPORT, LA 1009 MB												SPokane, WA 933 MB											
Resultant Wind												Resultant Wind												Resultant Wind												Resultant Wind												Resultant Wind											
Standard pressure (hPa)												Standard pressure (hPa)												Standard pressure (hPa)												Standard pressure (hPa)												Standard pressure (hPa)											
No. of observations												No. of observations												No. of observations												No. of observations												No. of observations											
Dynamic height												Dynamic height												Dynamic height												Dynamic height												Dynamic height											
Temperature												Temperature												Temperature												Temperature												Temperature											
Dew Point												Dew Point												Dew Point												Dew Point												Dew Point											
Direction												Direction												Direction												Direction												Direction											
Speed (m p h)												Speed (m p h)												Speed (m p h)												Speed (m p h)												Speed (m p h)											
SFC	31	12	8.1	3.8	0.7	1.3	31	6	23.6	17.3	12	1.0	31	221	-5.2	-8.2	20	2	31	79	5.5	3.4	29	1.0	31	720	-1.5	-2.9	19	2.0	31	720	-1.5	-2.9	19	2.0	31	720	-1.5	-2.9	19	2.0	31	720	-1.5	-2.9	19	2.0	31	720	-1.5	-2.9	19	2.0					
1000	26	101	10.6	-0.06	1.5	31	137	23.1	17.1	08	3.0	31	166	15.2	10.9	07	1.1	31	83	28.7	24.5	06	4.3	31	789	3.2	-3.9	15	2.3	31	789	3.2	-3.9	15	2.3	31	789	3.2	-3.9	15	2.3	31	789	3.2	-3.9	15	2.3	31	789	3.2	-3.9	15	2.3						
950	31	582	11.4	-3.2	1.0	1.3	31	584	20.3	13.8	08	5.9	31	528	-3.7	-0.8	24	2.1	31	576	7.7	0.2	26	3.7	31	1009	-1.1	-3.1	21	5.0	31	1009	-1.1	-3.1	21	5.0	31	1009	-1.1	-3.1	21	5.0	31	1009	-1.1	-3.1	21	5.0	31	1009	-1.1	-3.1	21	5.0					
900	31	1032	9.6	-6.8	0.8	7.3	31	1048	17.1	10.4	08	5.5	31	528	-3.7	-0.8	24	2.1	31	1023	7.6	-2.1	26	6.5	31	14609	-1.2	-6.7	23	7.0	31	14609	-1.2	-6.7	23	7.0	31	14609	-1.2	-6.7	23	7.0	31	14609	-1.2	-6.7	23	7.0	31	14609	-1.2	-6.7	23	7.0					
850	31	1504	7.2	-9.5	3.2	1.9	31	1534	14.1	7.8	07	3.0	31	1401	-6.3	-13.3	28	4.7	31	1493	6.3	-5.7	26	8.6	31	14948	-3.6	-10.0	25	8.2	31	14948	-3.6	-10.0	25	8.2	31	14948	-3.6	-10.0	25	8.2	31	14948	-3.6	-10.0	25	8.2	31	14948	-3.6	-10.0	25	8.2					
800	31	2404	5.1	-11.3	3.2	1.9	31	2404	11.7	5.5	07	3.0	31	1878	-5.9	-38.2	28	14.8	31	1988	4.0	-8.6	26	9.9	31	1948	-3.6	-10.0	25	8.2	31	1948	-3.6	-10.0	25	8.2	31	1948	-3.6	-10.0	25	8.2	31	1948	-3.6	-10.0	25	8.2	31	1948	-3.6	-10.0	25	8.2					
750	31	2526	2.8	-13.6	3.2	4.0	31	2584	10.1	5.4	07	5.1	31	2374	-9.8	-18.7	28	6.8	31	2511	1.9	-13.2	26	11.9	31	2455	-0.5	-13.2	25	9.0	31	2455	-0.5	-13.2	25	9.0	31	2455	-0.5	-13.2	25	9.0	31	2455	-0.5	-13.2	25	9.0	31	2455	-0.5	-13.2	25	9.0					
700	31	3081	-3.1	-17.2	3.2	5.9	31	3157	8.0	1.6	06	4.5	31	2904	-12.0	-22.4	28	8.6	31	3005	-1.0	-15.7	26	13.9	31	2992	-0.4	-15.7	25	9.8	31	2992	-0.4	-15.7	25	9.8	31	2992	-0.4	-15.7	25	9.8	31	2992	-0.4	-15.7	25	9.8	31	2992	-0.4	-15.7	25	9.8					
650	31	3667	-3.8	-20.9	3.2	7.0	31	3767	5.7	-1.8	05	4.4	31	3469	-14.8	-26.3	28	9.8	31	3653	-0.8	-19.4	26	16.5	31	3561	-1.2	-19.4	25	11.6	31	3561	-1.2	-19.4	25	11.6	31	3561	-1.2	-19.4	25	11.6	31	3561	-1.2	-19.4	25	11.6	31	3561	-1.2	-19.4	25	11.6					
600	31	4294	-7.9	-24.5	3.1	7.9	31	4419	2.3	-6.8	04	3.5	31	4070	-18.2	-29.8	28	11.2	31	4279	-1.7	-21.2	26	18.6	31	4169	-1.0	-21.2	25	12.5	31	4169	-1.0	-21.2	25	12.5	31	4169	-1.0	-21.2	25	12.5	31	4169	-1.0	-21.2	25	12.5	31	4169	-1.0	-21.2	25	12.5					
550	31	4964	-12.5	-27.9	3.2	9.1	31	5117	-1.8	-9.2	02	4.0	31	4701	-21.4	-33.5	28	13.1	31	4950	-12.2	-27.6	26	20.6	31	4819	-1.9	-27.6	25	14.0	31	4819	-1.9	-27.6	25	14.0	31	4819	-1.9	-27.6	25	14.0	31	4819	-1.9	-27.6	25	14.0	31	4819	-1.9	-27.6	25	14.0					
500	31	5685	-17.9	-32.3	3.1	10.9	31	5869	-6.5	-14.0	01	3.9	31	5413	-25.9	-38.2	28	14.8	31	5673	-16.1	-31.2	26	24.1	31	5520	-2.4	-31.2	25	19.4	31	5520	-2.4	-31.2	25	19.4	31	5520	-2.4	-31.2	25	19.4	31	5520	-2.4	-31.2	25	19.4	31	5520	-2.4	-31.2	25	19.4					
450	29	6462	-23.7	-36.6	3.1	11.6	31	6685	-12.1	-19.3	36	6.1	30	6169	-31.3	-62.3	28	17.4	31	6457	-21.9	-30.0	26	27.5	31	6280	-2.8	-30.0	25	18.6	31	6280	-2.8	-30.0	25	18.6	31	6280	-2.8	-30.0	25	18.6	31	6280	-2.8	-30.0	25	18.6	31	6280	-2.8	-30.0	25	18.6					
400	29	7331	-30.1	-41.1	3.0	14.2	31	7575	-19.0	-26.0	34	7.1	30	6993	-37.3	-65.3	28	20.2	31	7314	-27.7	-40.5	26	32.1	31	7109	-30.0	-40.5	25	18.4	31	7109	-30.0	-40.5	25	18.4	31	7109	-30.0	-40.5	25	18.4	31	7109	-30.0	-40.5	25	18.4	31	7109	-30.0	-40.5	25	18.4					
350	28	8257	-37.0	-46.8	3.0	16.0	31	8557	-26.5	-33.3	33	9.4	30	7905	-43.6	-71.6	28	23.3	31	8264	-34.2	-44.5	26	35.1	31	8026	-34.2	-44.5	25	22.1	31	8026	-34.2	-44.5	25	22.1	31	8026	-34.2	-44.5	25	22.1	31	8026	-34.2	-44.5	25	22.1	31	8026	-34.2	-44.5	25	22.1					
300	28	9303	-47.0	-57.0	3.0	16.6	31	9649	-35.1	-41.4	32	13.3	29	8993	-49.6	-77.6	28	25.5	31	9323	-41.7	-46.9	26	37.6	31	9056	-49.6	-77.6	25	25.9	31	9056	-49.6	-77.6	25	25.9	31	9056	-49.6	-77.6	25	25.9	31	9056	-49.6	-77.6	25	25.9	31	9056	-49.6	-77.6	25	25.9					
250	27	10499	-51.8	-67.6	3.1	17.1	31	10895	-44.7	-50.0	30																																																

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WAYCROSS, GA 1014 MB												WINNEVOCA, NV 872 MB												WINDLOW, AZ 853 MB												YAK TEST, AK 99A MB												VAD, CO, LINDY TS, 1075 MB											
Resistant Wind												Resistant Wind												Resistant Wind												Resistant Wind												Resistant Wind											
No of observations												No of observations												No of observations												No of observations												No of observations											
Dynamic height												Dynamic height												Dynamic height												Dynamic height												Dynamic height											
Temperature												Temperature												Temperature												Temperature												Temperature											
Dew Point												Dew Point												Dew Point												Dew Point												Dew Point											
Direction												Direction												Direction												Direction												Direction											
Speed (m.p.h.)												Speed (m.p.h.)												Speed (m.p.h.)												Speed (m.p.h.)												Speed (m.p.h.)											
No of observations												No of observations												No of observations												No of observations												No of observations											
950	31	4	7.6	5.7	27	1.3	31	1.312	-4.3	-8.0	16	9	31	1.787	-6.2	-11.9	19	1.4	31	1.7	-5.5	-11.9	14	2.2	31	1.4	17.5	24.1	28	4.5																													
1000	31	158	10.3	5.7	27	1.3	31	2.001	-2.3	-8.6	23	2.4	31	1.997	-4.6	-9.1	31	2.0	31	1.748	-6.4	-11.4	18	3.4	31	535	20.8	23.0	08	6.1																													
950	31	587	10.5	2.9	26	4.2	31	2.512	-4.7	-10.7	29	4.2	31	2.512	-2.3	-12.2	30	3.0	31	2.246	-11.7	-17.1	19	5.4	31	2.564	13.7	3.6	28	2.8																													
900	31	1.036	9.4	5.26	6.4	31	3.053	-6.8	-13.7	30	6.8	31	3.057	-4.8	-15.7	30	4.2	31	2.771	-15.2	-21.6	20	6.4	31	3.141	10.0	2.09	28	2.7																														
850	31	1.509	8.0	-4.5	25	4.3	31	3.628	-9.8	-17.1	30	8.8	31	3.637	-7.7	-20.0	30	5.8	31	3.327	-18.9	-24.4	21	6.9	31	3.755	0.8	-4.1	27	2.3																													
800	31	2.008	6.2	-7.3	26	10.1	31	4.242	-13.3	-22.0	31	9.6	31	4.255	-11.6	-24.0	30	8.0	31	3.919	-22.8	-29.1	21	8.4	31	4.408	3.2	-8.0	27	2.5																													
750	31	2.530	-4.5	-10.1	26	11.6	31	4.900	-17.3	-25.3	31	11.9	31	4.917	-15.7	-28.5	30	9.2	31	4.551	-28.9	-33.4	22	10.3	31	5.109	-4.8	-13.2	27	2.1																													
700	31	3.094	1.5	-12.0	26	13.4	31	5.607	-22.6	-29.8	32	14.8	31	5.629	-20.6	-34.0	30	10.0	31	5.232	-31.3	-38.8	22	11.5	31	5.864	-4.9	-16.8	27	2.3																													
650	31	3.688	-1.7	-15.2	26	17.1	31	6.375	-27.0	-34.7	32	18.6	31	6.400	-25.8	-38.0	30	11.8	31	5.977	-37.0	-41.4	23	13.1	31	6.485	-4.4	-22.2	27	2.5																													
600	31	4.321	-4.8	-18.5	26	20.2	31	7.214	-32.8	-40.7	32	19.4	31	7.243	-32.0	-43.3	30	13.9	31	6.774	-43.3	-47.5	23	15.1	31	7.585	-13.3	-20.7	27	2.6																													
550	31	5.031	-8.9	-22.5	24	22.1	31	8.143	-40.0	-44.3	32	21.0	31	8.176	-38.4	-47.8	29	16.2	31	7.502	-49.7	-54.0	24	16.8	31	8.585	-21.7	-33.9	27	2.6																													
500	31	5.732	-13.8	-28.0	26	24.4	31	9.176	-47.3	-51.6	32	23.2	31	9.218	-45.2	-52.2	29	18.0	31	8.857	-54.3	-58.6	24	17.9	31	9.688	-30.2	-42.0	27	2.7																													
450	31	6.525	-19.0	-31.7	26	27.0	31	10.361	-54.9	-59.2	32	23.2	31	10.419	-51.3	-58.3	28	21.6	31	9.825	-53.6	-57.9	24	18.9	31	10.748	-40.6	-52.4	27	2.8																													
400	31	7.392	-24.8	-36.1	26	31.2	31	11.773	-58.7	-63.0	32	22.7	31	11.852	-55.8	-62.9	28	22.5	31	11.271	-50.4	-54.7	24	16.5	31	12.447	-53.2	-65.0	27	2.9																													
350	31	8.353	-31.8	-42.4	26	34.2	31	12.613	-57.9	-62.2	30	20.6	30	12.702	-56.6	-63.7	27	22.1	31	12.144	-49.5	-53.8	25	15.9	31	13.294	-60.3	-72.1	27	3.0																													
300	31	9.420	-40.2	-47.6	26	36.4	31	13.586	-57.5	-61.8	30	17.2	29	13.675	-57.4	-64.5	27	19.2	31	13.153	-49.8	-54.1	25	16.7	31	14.237	-68.2	-80.0	27	3.1																													
250	31	10.640	-49.3	-56.2	27	38.4	31	14.738	-59.9	-64.2	30	14.4	29	14.821	-60.0	-67.1	27	18.1	31	14.348	-49.5	-53.8	25	16.4	31	15.309	-70.4	-82.2	27	3.2																													
200	31	12.073	-58.0	-63.0	27	39.1	31	15.133	-59.9	-64.2	30	11.0	29	15.203	-62.6	-69.7	27	13.7	31	14.814	-48.9	-53.2	25	15.9	31	16.566	-84.6	-96.4	27	3.3																													
175	29	12.904	-50.5	-55.5	27	42.6	31	17.524	-60.6	-64.9	30	8.8	28	17.579	-62.9	-70.0	28	7.5	30	17.279	-49.0	-53.3	25	14.6	30	17.804	-91.8	-103.6	27	3.4																													
150	29	13.860	-62.2	-67.2	27	44.4	31	18.402	-63.2	-67.5	33	5.6	28	18.457	-65.5	-72.6	27	4.7	30	18.156	-49.2	-53.5	25	14.3	29	18.964	-70.7	-82.5	27	3.5																													
125	27	14.981	-65.3	-70.3	27	46.1	31	19.323	-60.0	-64.3	33	4.0	28	19.352	-62.2	-69.3	29	2.6	30	19.168	-49.3	-53.6	25	12.8	29	19.456	-70.6	-82.4	27	3.6																													
100	25	16.328	-68.7	-73.7	27	48.1	31	20.463	-59.2	-63.5	36	2.6	28	20.481	-61.5	-68.6	32	4.4	29	20.359	-49.3	-53.6	26	13.1	29	20.564	-64.7	-76.5	27	3.7																													
75	25	17.661	-69.5	-74.5	29	5.3	26	21.868	-58.0	-62.3	06	4.6	28	21.887	-60.4	-67.5	06	2.2	28	21.825	-48.7	-53.0	27	13.2	29	21.939	-61.7	-73.5	27	3.8																													
50	24	19.394	-66.3	-71.3	29	7.3	25	23.699	-58.3	-62.6	07	8.0	28	23.689	-58.1	-65.2	07	4.9	27	23.719	-48.8	-53.1	28	13.0	27	23.744	-53.4	-65.2	27	3.9																													
25	25	20.536	-63.8	-68.8	28	9.4	24	24.857	-55.3	-59.6	07	9.1	27	24.819	-56.5	-63.6	06	6.0	25	24.899	-49.5	-53.8	28	14.5	27	24.912	-53.2	-65.0	27	4.0																													
0	21	22.274	-53.6	-58.6	27	11.3	23	26.284	-53.9	-58.2	06	10.4	21	26.246	-54.5	-61.6	06	6.4	24	26.368	-48.9	-53.2	29	14.8	23	26.364	-49.2	-61.0	27	4.1																													
15	19	28.136	-51.4	-56.4	27	13.6	21	28.150	-53.1	-57.4	05	11.8	15	28.100	-53.6	-60.7	07	8.9	20	28.251	-49.0	-53.3	29	15.5	19	28.260	-49.4	-61.2	25	9.3																													
10	11	30.784	-46.6	-51.6	8	30.787	-53.5																																																				

Y. COA FLAT, NV 884 MB											
No of observations											
Dynamic height											
Temperature											
Dew Point											
Direction											
Speed (m.p.h.)											
950	31	1.198	-3.0	-6.8	32	1.1					
1000	31	1.518	2.5	-8.3	36	7.5					
950	31	2.006	.1	-11.0	36	4.8					
900	31	2.521	-2.0	-13.6	36	4.4					
850	31	3.067	-4.2	-17.3	34	5.8					
800	31	3.649	-7.0	-20.6	33	7.2					
750	31	4.269	-10.6	-23.7	32	8.4					
700	31	4.933	-14.7	-26.7	32	10.7					
650	31	5.648	-20.0	-30.5	32	11.7					
600	31	6.420	-25.7	-35.1	32	13.5					
550	31	7.264	-31.7	-40.6	32	15.6					
500	31	8.197	-38.8	-46.2	32	17.9					
450	31	9.235	-46.2	-52.3	32	20.1					
400	31	10.426	-52.9	-58.0	32	22.2					
350	31	11.848	-57.3	-63.3	30	19.8					
300	31	12.692	-57.7	-63.3	30	20.1					
250	31	13.665	-57.7	-63.3	30	18.6					
200	31	14.812	-59.5	-65.0	30	14.8					
175	30	16.201	-61.1	-66.7	29	11.2					
150	30	17.583	-62.3	-68.0	30	7.8					
125	30	18.408	-62.1	-68.0	31	4.2					
100	30	19.364	-61.2	-67.7	32	3.7					
75	29	20.497	-60.5	-66.7	03	3.0					
50	28	21.894	-59.3	-65.0	06	4.0					
25	28	23.704	-57.4	-62.7	07	8.0					
0	25	24.859	-55.9	-60.7	07	8.8					
15	25	26.285	-53.9	-58.2	06	10.4					
10	16	28.134	-53.5	-56.0	06	13.0					

SOLAR RADIATION INTENSITIES

Tabulated in langley's per minute on a surface normal to the direction of the sun.

DECEMBER 1974

Sun's zenith distance										Sun's zenith distance										
A.M.					P.M.					A.M.					P.M.					
78.7°	75.7°	70.7°	60.0°	*	60.0°	70.7°	75.7°	78.7°		78.7°	75.7°	70.7°	60.0°	*	60.0°	70.7°	75.7°	78.7°		
ALBUQUERQUE, N. MEX.										MADISON, WIS.										
Air mass										Air mass										
1.19	3.15	2.51	1.67	*	1.67	2.51	3.35	4.19		4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69		
1----	1.14	1.14	1.29	1.34	1.32	1.19	1.07	.97		2----	S 1.00	S 1.09	S 1.22	S 1.31	1.47	S 1.10	S 1.01			
3----	.91	1.01	1.14	1.29	1.34	1.19	1.07	.97		9----	M .73	M .89	M 1.05	M 1.06	1.09	S 1.05	S .99			
5----	-----	-----	1.28	(1.33)	1.34	-----	1.15	1.01	.90	10----	-----	-----	-----	-----	-----	S .96	S .87			
7----	.93	1.04	1.17	1.18	-----	-----	1.15	1.01	.90	20----	M .83	M .96	M 1.02	M 1.14	1.04	S .94	S .86			
9----	1.00	1.11	1.22	1.37	1.38	1.33	1.14	1.01	.90	30----	-----	-----	-----	-----	-----	M .90	M .79			
11----	-----	(1.15)	1.31	1.32	1.32	1.18	1.07	.98		Aver-	.85	.98	1.09	1.17	1.20	.98	.89			
12----	.95	1.05	1.16	1.33	1.31	1.34	1.18	1.07	.97	ages										
13----	-----	(1.18)	1.39	1.38	1.35	1.21	1.08	.98												
14----	1.02	1.12	1.24	1.39	1.40	1.40	1.25	1.13	1.02											
15----	.94	1.06	1.22	1.36	1.37	-----	-----	-----	-----											
16----	.98	1.09	1.20	1.35	-----	-----	-----	-----	-----											
17----	1.01	1.11	1.24	1.39	1.39	1.21	1.09	.99												
18----	1.01	1.11	1.24	1.40	1.40	1.39	1.23	1.10	1.00											
19----	-----	1.11	1.22	1.36	(1.38)	(1.38)	1.24	1.13	1.04											
20----	(.97)	-----	(1.37)	1.39	1.37	-----	1.10	(.96)												
22----	-----	1.25	1.41	1.43	1.39	1.22	1.09	.97												
23----	.93	1.04	-----	-----	-----	-----	-----	-----	-----											
24----	1.00	1.09	1.24	(1.40)	(1.42)	1.42	1.26	1.14	1.02											
25----	-----	-----	-----	(1.42)	1.41	(1.36)	-----	-----	-----											
27----	-----	1.09	1.32	1.33	1.30	1.10	.96	-----	-----											
28----	-----	.97	1.06	1.30	1.33	1.34	1.15	1.00	.86											
29----	-----	-----	-----	-----	-----	(.91)	(.83)	-----	-----											
31----	-----	-----	-----	(1.04)	-----	1.15	1.07	.97	-----											
Aver-	.97	1.07	1.19	1.34	1.37	1.35	1.19	1.07	.97											
ages																				
MAUNA LOA OBSERVATORY, HAWAII										TUCSON, ARIZ.										
Air mass										Air mass										
4.56	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36		4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56		
1.24	1.31	1.40	1.52	1.61	1.50	1.32	1.16	1.07	2----	.87	.99	1.11	1.28	1.38	1.29	1.15	1.04	.89		
2----	1.24	1.31	1.41	1.53	1.63	1.53	1.40	1.22	3----	.90	.99	1.11	1.34	1.36	-----	-----	-----	-----		
3----	1.24	1.33	1.42	1.53	-----	-----	-----	-----	5----	-----	1.00	1.14	1.37	-----	-----	-----	.99	-----		
4----	1.23	1.30	1.40	1.51	-----	-----	-----	-----	6----	H .45	H .62	H .79	H 1.12	H 1.23	-----	-----	.95	.83		
5----	1.18	1.26	1.38	1.51	1.59	1.42	-----	-----	7----	.82	.93	1.03	1.28	1.36	1.33	1.11	1.01	.92		
6----	1.14	1.23	1.33	1.48	-----	-----	-----	-----	8----	.72	.81	1.00	1.22	1.27	1.27	1.05	.91	.75		
8----	1.20	1.27	1.39	1.51	1.60	-----	-----	-----	9----	.88	1.00	1.14	1.31	1.36	1.31	1.11	.98	.86		
9----	1.22	1.29	1.40	1.51	1.61	1.50	1.38	1.31	1.19	10----	.94	1.06	1.16	1.36	1.41	1.33	-----	-----		
10----	1.24	1.32	1.42	1.53	1.64	1.56	1.45	1.33	1.27	11----	.91	1.04	1.18	1.36	1.41	1.36	1.14	.97		
11----	1.31	1.36	1.47	1.58	1.66	1.57	1.45	1.35	1.27	12----	.91	1.02	-----	-----	-----	1.13	1.01	.90		
12----	1.23	1.31	1.41	1.54	1.64	-----	-----	-----	-----	13----	.87	1.04	-----	1.34	1.36	1.32	1.15	1.05	.91	
13----	-----	-----	-----	1.62	-----	-----	-----	-----	-----	14----	.76	.88	1.06	1.24	1.29	1.24	1.10	.98	.87	
14----	1.30	1.38	1.47	1.58	1.65	1.56	1.44	1.34	1.27	15----	.88	1.01	1.14	1.35	1.41	1.37	1.20	1.06	.97	
15----	1.28	1.36	1.46	1.57	-----	-----	-----	-----	-----	16----	.84	.97	1.14	1.36	1.42	1.31	1.17	1.02	.90	
16----	1.24	1.33	1.41	1.54	1.64	1.54	1.45	1.36	1.29	17----	1.02	1.08	1.26	1.41	1.44	-----	-----	-----	-----	
17----	1.28	1.35	1.47	1.54	1.67	1.58	-----	1.38	1.32	18----	-----	-----	-----	1.35	1.37	1.36	1.19	1.10	1.00	
18----	1.30	1.37	1.44	1.58	-----	-----	-----	-----	-----	19----	-----	-----	-----	1.34	-----	1.37	1.18	1.06	.96	
19----	1.34	1.43	1.50	1.61	-----	-----	-----	-----	-----	20----	.92	1.05	1.19	1.26	1.36	1.31	1.10	1.00	.87	
23----	-----	-----	-----	-----	1.47	1.34	1.24	1.17	-----	21----	-----	-----	-----	-----	1.38	-----	-----	1.06	.98	
24----	1.26	1.31	1.41	1.53	1.63	1.54	1.41	1.31	1.23	22----	.98	1.08	1.23	1.39	1.42	-----	1.21	1.10	.98	
25----	1.32	1.37	1.48	1.59	-----	-----	-----	-----	-----	23----	-----	-----	-----	-----	-----	-----	1.25	1.16	1.06	
26----	-----	-----	-----	1.49	-----	1.48	1.25	1.16	-----	24----	.98	1.08	1.17	1.35	1.44	1.43	1.23	1.11	1.02	
28----	1.25	1.33	1.43	1.54	1.63	1.54	1.41	1.31	1.22	27----	.94	1.05	1.14	1.35	1.42	1.37	1.20	1.07	.96	
29----	1.24	1.32	1.42	1.54	1.63	1.52	1.38	1.25	1.16	30----	-----	-----	1.04	1.24	1.27	1.33	1.20	1.08	.99	
30----	1.29	1.36	1.45	1.57	1.65	1.51	1.34	1.18	1.08	31----	-----	1.06	-----	1.36	-----	1.37	-----	-----	-----	
31----	1.27	1.35	1.44	1.56	1.65	-----	-----	-----	-----	Aver-	.87	.99	1.11	1.32	1.37	1.33	1.16	1.03	.92	
Aver-	1.25	1.33	1.43	1.54	1.63	1.52	1.40	1.29	1.21	ages										
ages																				
OMAHA, NEBR.										NO DATA RECEIVED										
Air mass																				
4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78												

1911

Net radiation in langley's per day (from 6 a.m. to 6 p.m.) at Palmer, Alaska

Date,	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Temperature,	-22	-21	-21	19	-15	-15	-20	-21	-12	-13	-6	-12	-12	8	-11	-10	-50	-26	-13	-21	25	-31	-18	-27	-28	-28	-29	-29	-30	-1	-62	-19

SOLAR ULTRA-VIOLET RADIATION DATA

[illegible]

TOTAL OZONE DATA

From previous measurements, data are plotted in measurements made with a photoacoustic spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code as a 1000 × 1000 matrix. A total of two hundred critical PARTICLES OF DATA FOR PHOTOACOUSTIC RESPIROMETER, WORLD OZONE DATA.

100

LATE REPORTS AND CORRECTIONS

Corrections to the Maximum Short Duration Precipitation Table for 1973, which was printed in the 1973 Annual Climatological Data National Summary, appear in the 1974 Annual issue.

SOLAR RADIATION INTENSITIES LATE REPORTS

Tabulated in langley's per minute on a surface normal to the direction of the sun.

Date	Sun's zenith distance							
	A.M.				*	P.M.		
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°

ALBUQUERQUE, N. MEX.

1974 November	Air mass								
	1.09	1.35	2.51	1.67	*	1.67	2.51	1.35	1.09
2-----	.94	1.05	1.18	1.32	1.38	1.31	-----	-----	(.89)
1-----	-----	.90	1.00	1.12	1.16	1.11	1.00	.90	.80
3-----	.93	1.02	1.13	-----	-----	-----	-----	-----	-----
7-----	.78	.91	1.09	1.25	1.31	1.24	1.17	1.05	.94
8-----	.87	(.94)	-----	-----	-----	-----	-----	-----	-----
9-----	.86	.96	1.07	1.25	-----	-----	-----	-----	-----
10-----	.83	.93	1.05	-----	-----	1.29	1.17	1.08	.98
11-----	1.01	1.11	1.18	1.36	1.41	1.35	1.20	1.07	.96
12-----	1.03	1.13	1.22	1.37	-----	-----	-----	-----	-----
13-----	1.05	1.15	1.26	1.37	1.44	-----	-----	-----	-----
14-----	.95	1.06	1.18	1.38	1.38	-----	-----	-----	-----
15-----	-----	-----	-----	-----	(1.37)	1.29	1.07	(.94)	(.79)
16-----	.86	.97	1.12	1.29	1.35	1.29	1.10	1.00	.92
17-----	1.01	1.13	-----	-----	-----	-----	-----	-----	-----
18-----	-----	-----	-----	1.33	1.37	(1.31)	1.19	1.05	.97
19-----	.85	.96	1.07	1.27	-----	1.30	1.16	1.00	-----
20-----	-----	1.10	1.23	1.39	(1.37)	1.32	1.16	1.05	.96
21-----	1.00	1.08	1.21	1.36	1.40	1.33	1.15	1.03	.92
22-----	-----	-----	1.21	1.27	-----	-----	-----	-----	-----
24-----	1.01	1.11	1.22	1.37	1.42	1.33	1.19	1.06	.94
25-----	1.03	1.09	1.24	1.38	1.43	1.41	1.25	1.14	1.04
26-----	1.03	1.13	1.23	1.38	1.40	1.40	1.26	1.17	1.08
27-----	1.07	1.18	1.24	1.35	1.40	-----	-----	1.13	1.02
28-----	1.02	1.12	1.23	-----	-----	1.29	-----	-----	-----
29-----	-----	-----	-----	-----	-----	1.27	-----	1.05	.95
30-----	1.04	-----	-----	-----	-----	-----	1.22	-----	-----
Aver- ages	.96	1.05	1.17	1.32	1.38	1.30	1.16	1.06	.96

Date	Sun's zenith distance							
	A.M.				*	P.M.		
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°

MADISON, WIS.

1974 November	Air mass								
	1.09	1.7	2.81	1.88	*	1.88	2.81	1.7	1.09
2-----	-----	-----	M .88	-----	-----	-----	-----	-----	-----
6-----	S .85	S .96	S 1.05	HM1.22	HM1.21	HM1.18	M 1.00	P .88	M .79
7-----	M .77	M .86	M 1.01	M 1.20	M 1.25	S 1.23	S 1.05	S .94	-----
8-----	H .62	H .74	H .89	H 1.09	H 1.09	H 1.07	M .97	M .83	M .71
15-----	-----	-----	-----	S 1.32	-----	-----	S 1.18	-----	-----
17-----	-----	-----	-----	-----	-----	-----	-----	S .91	.84
24-----	-----	S 1.62	S 1.16	-----	-----	-----	-----	-----	-----
26-----	-----	-----	-----	-----	-----	-----	S 1.00	-----	.88
Aver- ages	.72	.99	1.06	1.17	1.22	1.16	.95	.91	.86

STORM SUMMARY LATE REPORTS

SEPTEMBER 1974

Storm Reports

CORRECTIONS

DATE	TITLE	STATE	CORRECTION
APRIL 1974	STORM SUMMARY	ALABAMA	TORNADOES: Number - 18; Deaths - 78
APRIL 1974	STORM SUMMARY	GEORGIA	TORNADOES: Number - 9
APRIL 1974	STORM SUMMARY	ILLINOIS	TORNADOES: Number - 21; Injuries - 47; Damage - 7; HAILSTORMS: Property - 7; WINDSTORMS: Injuries - 1; Crops - 3
APRIL 1974	STORM SUMMARY	INDIANA	TORNADOES: Number - 24; Deaths - 47; Injuries - 896; WINDSTORMS: Injuries - 2; ALL OTHERS: Deaths - 1
APRIL 1974	STORM SUMMARY	KENTUCKY	TORNADOES: Number - 29; Damage - 7; WINDSTORMS: Injuries - 14
APRIL 1974	STORM SUMMARY	NORTH CAROLINA	TORNADOES: Number - 11
APRIL 1974	STORM SUMMARY	OHIO	TORNADOES: Number - 15; Deaths - 40
APRIL 1974	STORM SUMMARY	TENNESSEE	TORNADOES: Number - 42; Deaths - 44; Injuries - 734; Damage - 7
APRIL 1974	STORM SUMMARY	VIRGINIA	TORNADOES: Number - 6; Injuries - 6; WINDSTORMS: Property - ?
APRIL 1974	STORM SUMMARY	WEST VIRGINIA	TORNADOES: Number - 6; Injuries - 34
MAY 1974	STORM SUMMARY	FLORIDA	TORNADOES: Number - 25
MAY 1974	STORM SUMMARY	COLORADO	TORNADOES: Number - 4; Days - 3; Damage - 3
MAY 1974	STORM SUMMARY	ILLINOIS	HAILSTORMS: Property - ?; WINDSTORMS: Property - ?
MAY 1974	STORM SUMMARY	NORTH DAKOTA	TORNADOES: Number - 5; Days - 4
JUNE 1974	STORM SUMMARY	ILLINOIS	TORNADOES: Number - 43; Injuries - 7
JULY 1974	STORM SUMMARY	MICHIGAN	TORNADOES: Number - 13; ALL OTHER: Property - 5
JULY 1974	STORM SUMMARY	SOUTH DAKOTA	TORNADOES: Number - 3

REFERENCE NOTES

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES: Dates in the table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

- + And also on an earlier date or dates.
- D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch of water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA - METRIC UNITS: Data from airport unless otherwise specified.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

- B Number of days maximum 21.1°C. or above for Alaskan Stations.
- Y Peak Gust.
- + And also on an earlier date or dates.
- U Indicates Urban site.
- R Indicates Rural site.
- Ø Station pressures apply to elevations shown in the "Elevations" table of the annual issue of this publication.

Conversion formulae to English Units are as follows:

1 foot = 0.3048 meters
 °F. = $9 \times ^\circ\text{C} + 32$
 5
 1 inch = 25.4 millimeters
 1 mile per hour = 0.447 meters per second

HEATING DEGREE DAYS: Data from airport unless otherwise specified.

- U Indicates Urban site.
- R Indicates Rural site.

COOLING DEGREE DAYS: Data from airport unless otherwise specified.

- U Indicates Urban site.
- R Indicates Rural site.

STORM SUMMARY:

- ° Includes crop damage.
- C Crop damage.
- * No occurrence of storms or unusual weather phenomena reported.
- @ Includes heavy sleet storm.
- # Freezing drizzle and freezing rain, commonly known as glaze.
- Ø For breakdown of "All Others," and for detailed listing of other storms, see the Environmental Data Service, NOAA, monthly publication STORM DATA.
- ‡ No Storm Data Report received for this State.
- <> Report Incomplete.
- † Storm damages are placed in categories varying from 1 to 9 as follows:
 - 1 Less than \$50
 - 2 \$50 to \$500
 - 3 \$500 to \$5,000
 - 4 \$5,000 to \$50,000
 - 5 \$50,000 to \$500,000
 - 6 \$500,000 to \$5 Million
 - 7 \$5 Million to \$50 Million
 - 8 \$50 Million to \$500 Million
 - 9 \$500 Million to \$5 Billion.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS:

- I/ Flooding continued at the end of the month.
- NA Not available.

FLOOD STAGE DATA:

- # Highest Stage Observed
- I/ Continued at end of month
- Highest Stage of Record
- E Estimated
- P Provisional (Flood Stage)
- U Unknown

RAWINSONDE DATA (Average Monthly Values):

All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygrometers. These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

- * Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.
- + Observations for these stations are scheduled at 0000 G.C.T.
- † Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

REFERENCE NOTES - Continued

SOLAR RADIATION INTENSITIES: Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

()	Clouds Present	DM	Moderate Dust	HM	Moderate Haze	KS	Slight Smoke
*	Values corresponding to true solar noon	DS	Slight Dust	HS	Slight Haze	M	Moderate Haze-indeter-
BD	Blowing Dust	F	Fog	I	Intense Haze-indeterminable		minable
BN	Blowing Sand	GF	Ground Fog	K	Smoke	N	Sand
D	Dust	H	Haze	KI	Intense Smoke	S	Slight Haze-indeter-
DI	Intense Dust	HI	Intense Haze	KM	Moderate Smoke		minable

NET RADIATION: The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the NOAA, National Weather Service.

SOLAR ULTRA-VIOLET RADIATION DATA: These data are from an U-V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. This instrument has not been checked by the NOAA, National Weather Service.

TOTAL OZONE DATA: The spectrophotometer measures the total amount of ozone in the atmosphere, i.e., the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded λ λ λ) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e.g., 350 milli-atmo-cm ozone implies an ozone layer 0.350 centimeter thick. The code λ λ λ designates the type of measurement made.

Chart 1. A. Normal Daily Average Temperature ($^{\circ}\text{F}$. 1941-70), December.



B. Temperature Departure from 30 - Year Mean ($^{\circ}\text{F}$ 1941-70), December 1974

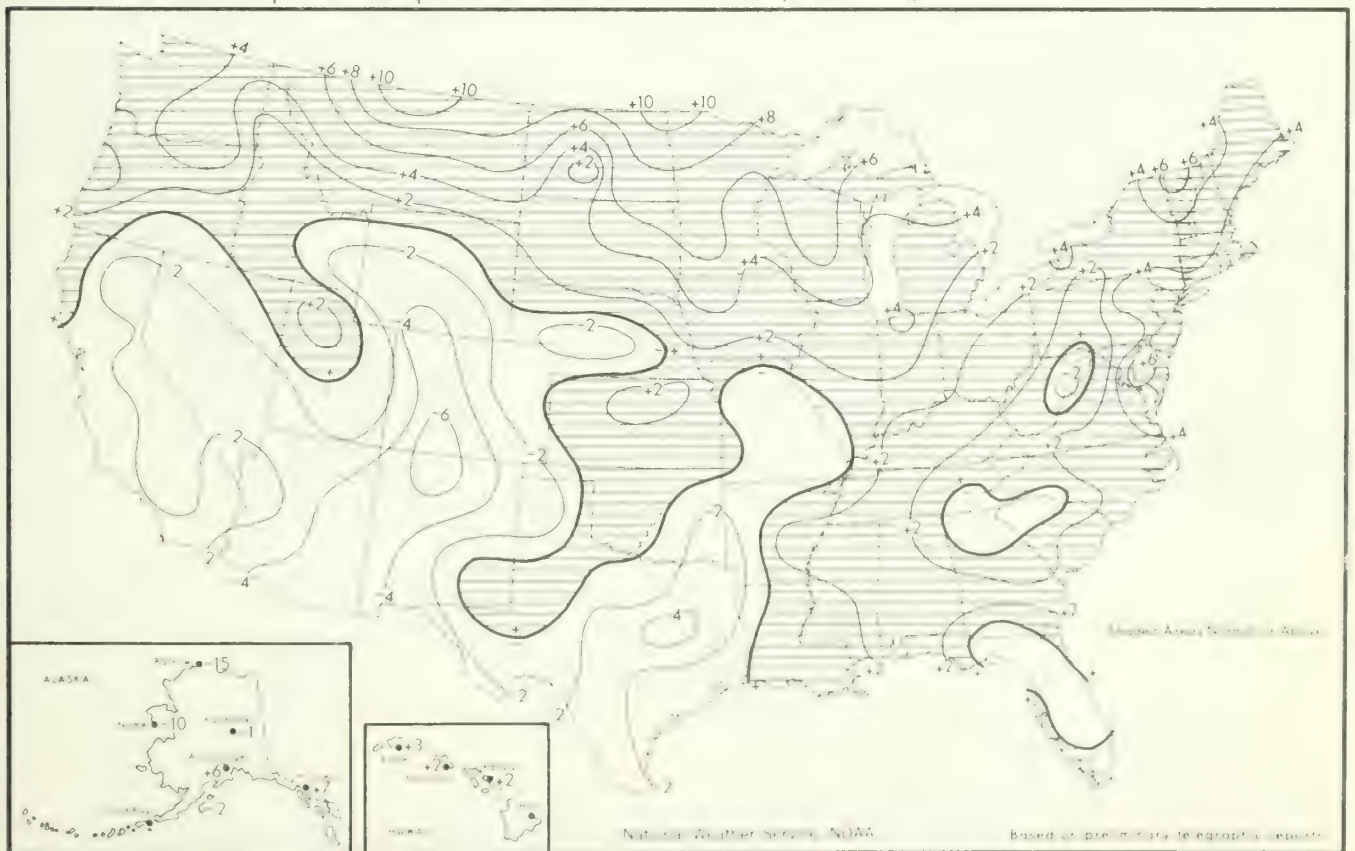
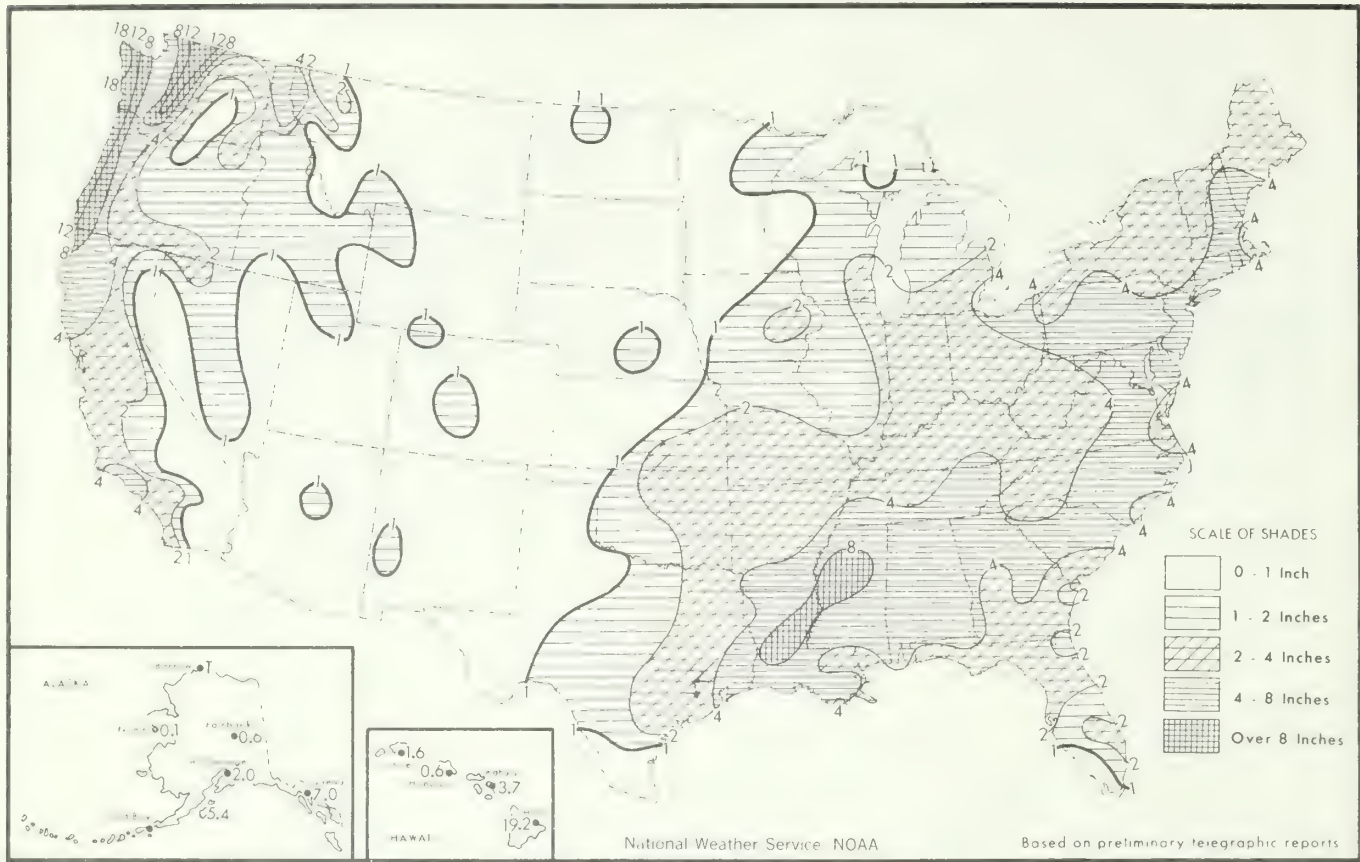
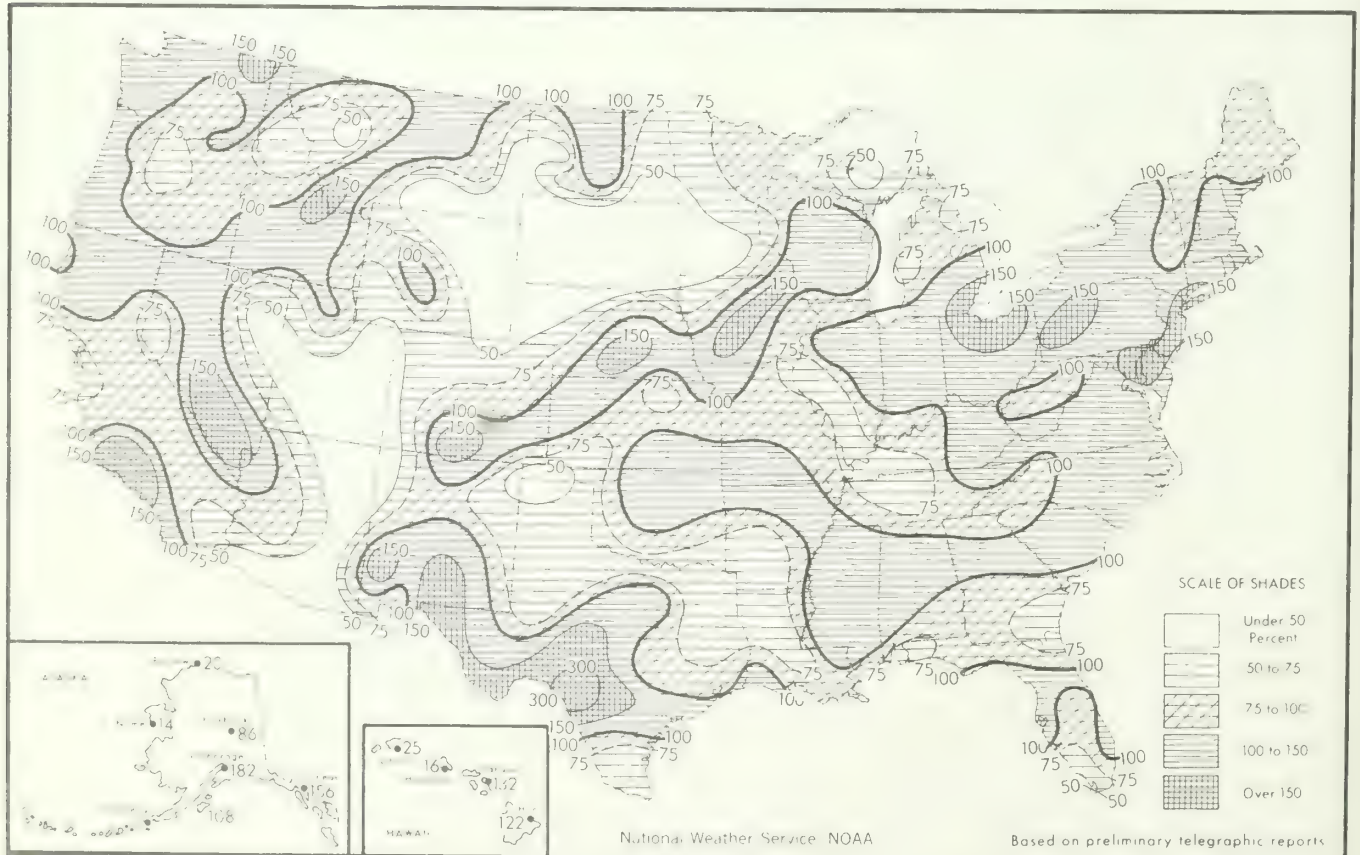
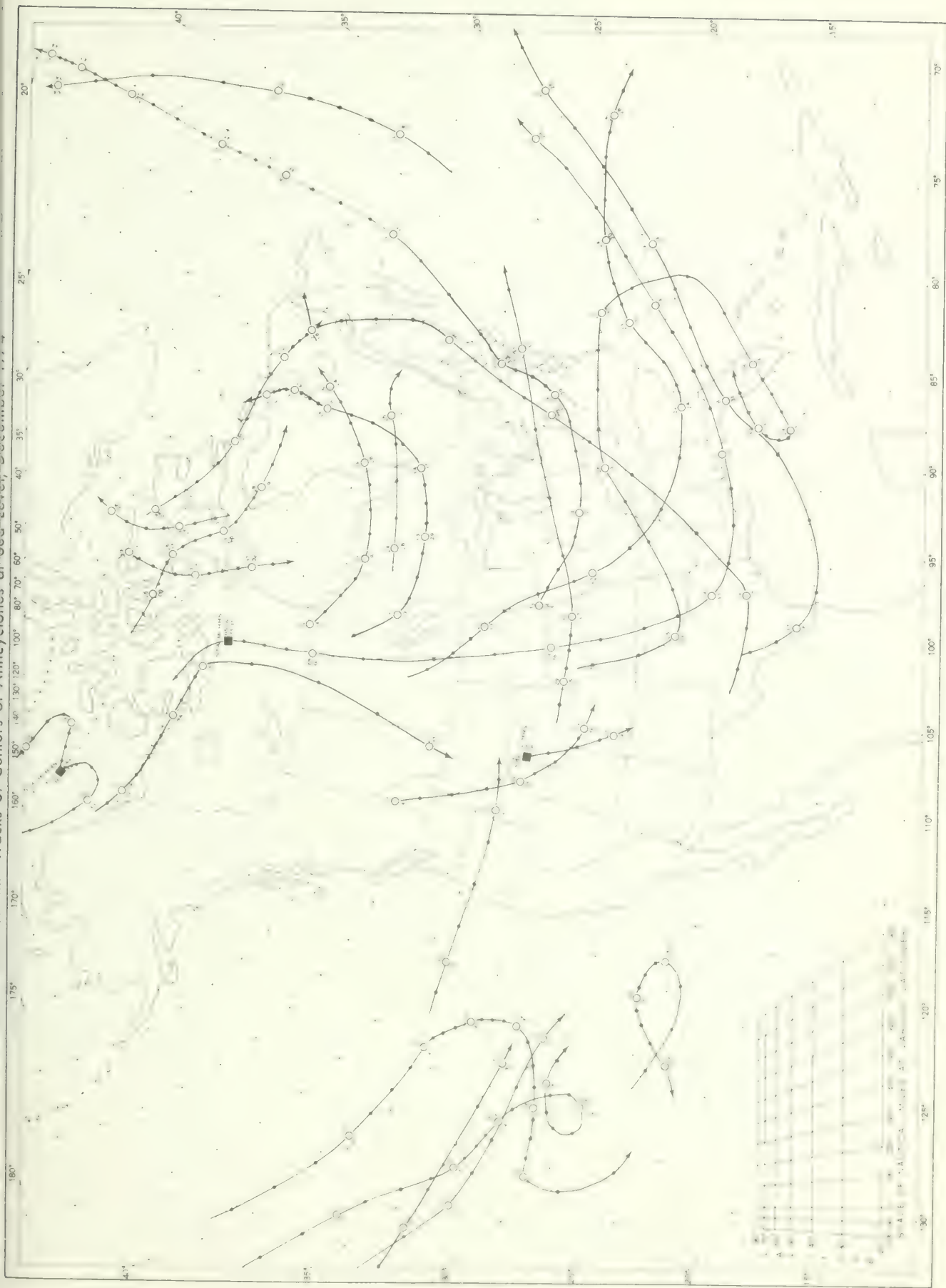


Chart II. A. Total Precipitation (Inches), December 1974



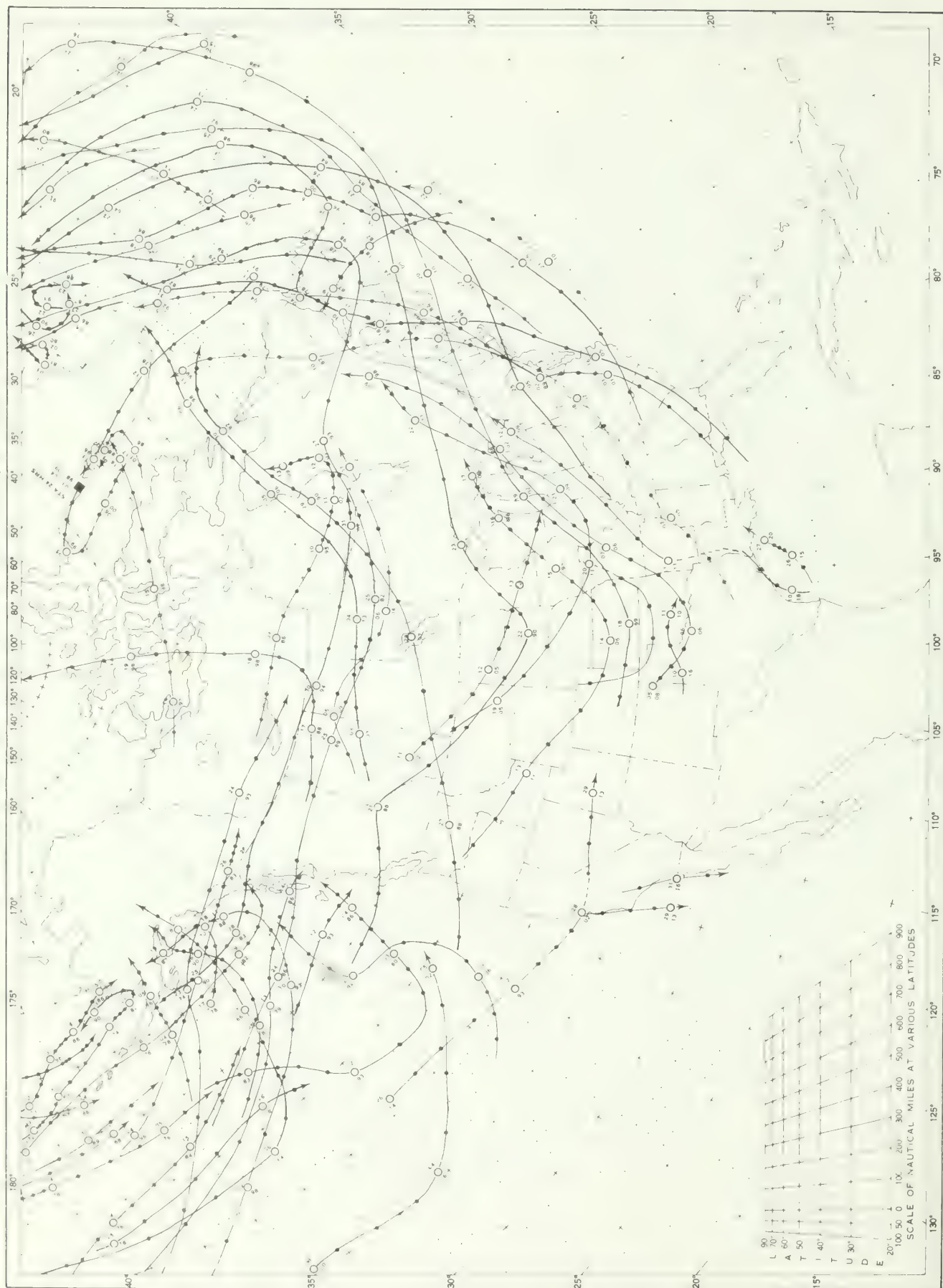
B. Percentage of Normal Precipitation, December 1974





Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below pressure to nearest millibar. Dots indicate intervening 6 hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IV. Tracks of Centers of Cyclones at Sea Level, December 1974



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar.
Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Environmental Data Service



ANNUAL

1974

Volume 25

No. 13

Wilmington, N.C.

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RAWINSONDE DATA (Average Annual Values) - tabulation discontinued. The tabulation RAWINSONDE DATA (Average Monthly Values) is carried in the monthly issue of the publication CLIMATOLOGICAL DATA NATIONAL SUMMARY.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

YEAR 1974

GENERAL SUMMARY OF WEATHER CONDITIONS

Lewis A. Blodgett, Meteorological Advisor, NCC

was another warm January in the East. Over a wide area in the Southeast, January temperatures averaged more than 10° above normal. However, in the Central States the first half of the month was extremely cold, with temperatures reaching the minus 30°s as far south as Nebraska. A marked warming occurred in the area, however, by the 15th which generally was maintained for the rest of the winter.

During February much-above-normal temperatures extended through the Central States into the Northwest. The East became colder, although still warmer than normal in the middle Atlantic States. There was a cold area over the southern Rocky Mountain States, while New England westward over the Great Lakes was milder than normal.

Precipitation, heavy in the Mississippi Valley and parts of the West in January, was light nationwide during February with only scattered areas of above normal rainfall.

March was a warm month nearly everywhere with record high temperatures common in the Southeast early in the month, and again at the end of the month in the northern Plains. Precipitation patterns during March were variable, but generally dry in the Southeast and Southwest while heavy in the Pacific Northwest and southern Texas.

An outstanding event during April was the tornado outbreak on the 3d and 4th, characterized as the most severe on record. There were 144 tornadoes in 14 states causing 307 deaths and 5,500 injuries.

May temperatures were quite variable during the month, but monthly averages were not far from normal. Precipitation during the month was also variable, although generally lighter than normal.

During May the Southwest was almost completely dry, with little heavy rainfall, beginning about midmonth, which parched the Corn Belt. Temperature patterns varied considerably during the month, averaging somewhat below normal across the northern part of the Nation, but warmer than normal over the southern part.

June was characterized by unusual warmth in the West, especially in the Desert Southwest, and practically no precipitation. From the Midwest eastward to the Atlantic Coast the month was cool with generally adequate rainfall. The last week in June saw record low temperatures common in the East, while record heat prevailed in the West.

The region of excessive heat covering the West in June moved eastward in July, causing the Great Plains to experience monthly averages of up to 6° above normal. Temperatures over 100° were common, with Omaha recording 110° on the 21st. Coupled with a pronounced lack of precipitation, the crops in the Great Plains and Corn Belt were adversely affected. The last two days of the month saw a welcome change to cooler weather and some rain.

During the second week of July an unusual storm brought record amounts of summer rainfall to the normally dry West. Some stations in California received more than double the amounts of any previous July.

In a pronounced reversal the Great Plains, so hot and dry in July, became wet and cool during August. Some areas which averaged 6° warmer than normal during July were 6° cooler than normal the following month. Rainfall was above normal. With the exception of the Northeast and parts of the Far West, the Nation generally experienced below normal temperature during August. Heavy amounts of rain fell in Texas, except in the Southern part of the State.

September was very cool, except in the far West where warm temperatures prevailed. As early as the 3d a frost hit parts of the northern Midwest, while on the 22d a heavy frost ended the growing season over a large area of the Corn Belt. Rainfall was generally light except in Texas, New Mexico and parts of Louisiana and Mississippi where heavy precipitation was caused by hurricane Carmen.

October continued cool in the East, with widespread frosts the first week. However, it continued warm in the West, with the area of above normal temperatures extending farther eastward than during September. Unusual rainfall fell in the Desert Southwest, Texas, and Oklahoma. The Southeast was dry with a few stations recording no rain at all.

Except for some scattered areas, November temperatures averaged warmer than normal nationwide. Rainfall was heavy in the mid-South and parts of the Midwest, as well as the Washington and Oregon coast. The north Atlantic coast and parts of the West were dry.

The warmer than normal temperature trend in November intensified during December, except in the Southwest, southern Rockies, and Texas.

Some parts of the Canadian border states averaged 10° over their normal monthly temperatures. Precipitation varied from very little in the Southwest to above normal in southwest Texas and much of the Northeast.

49 121-

MAXIMUM SHORT DURATION PRECIPITATION

[illegible]

MAXIMUM SHORT DURATION PRECIPITATION

[illegible]

MAXIMUM SHORT DURATION PRECIPITATION

[illegible]

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MAXIMUM SHORT DURATION PRECIPITATION

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MAXIMUM SHORT DURATION PRECIPITATION

Maximum precipitation in inches (to 180 minutes)																			Maximum precipitation in inches (to 180 minutes)																			Maximum precipitation in inches (to 180 minutes)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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OCT	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	OCT	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	OCT	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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DEC	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	DEC	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	DEC	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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MAXIMUM SHORT DURATION PRECIPITATION

(5 to 180 min)

[illegible]

$$P_{\text{max}} = P_{\text{min}} + \frac{1}{2} \rho \bar{u}^2$$

15 to 180 minutes).

MAXIMUM SHORT DURATION PRECIPITATION

Maximum precipitation at station
(5 to 180 minutes)

Maximum precipitation at station
(5 to 180 minutes)

Maximum precipitation at station
(5 to 180 minutes)

STATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000
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MAXIMUM SHORT DURATION PRECIPITATION

Max number of processes

[illegible]

^a χ^2 = 1.00, df = 1, p = .32.

MAXIMUM SHORT DURATION PRECIPITATION

Maximum precipitation in inches (5 to 180 minutes)													Maximum precipitation in inches (5 to 180 minutes)													Maximum precipitation in inches (5 to 180 minutes)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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JAN	102	104	106	108	110	112	114	116	118	120	122	124	JAN	11	20	25	27	28	30	31	35	40	45	50	55	JAN	22	27	30	33	36	39	42	45	48	51	54	57	60	63	66	69	72	75	78	81	84	87	90	93	96	99	102	105	108	111	114	117	120	123	126	129	132	135	138	141	144	147	150	153	156	159	162	165	168	171	174	177	180	183	186	189	192	195	198	201	204	207	210	213	216	219	222	225	228	231	234	237	240	243	246	249	252	255	258	261	264	267	270	273	276	279	282	285	288	291	294	297	300	303	306	309	312	315	318	321	324	327	330	333	336	339	342	345	348	351	354	357	360	363	366	369	372	375	378	381	384	387	390	393	396	399	402	405	408	411	414	417	420	423	426	429	432	435	438	441	444	447	450	453	456	459	462	465	468	471	474	477	480	483	486	489	492	495	498	501	504	507	510	513	516	519	522	525	528	531	534	537	540	543	546	549	552	555	558	561	564	567	570	573	576	579	582	585	588	591	594	597	600	603	606	609	612	615	618	621	624	627	630	633	636	639	642	645	648	651	654	657	660	663	666	669	672	675	678	681	684	687	690	693	696	699	702	705	708	711	714	717	720	723	726	729	732	735	738	741	744	747	750	753	756	759	762	765	768	771	774	777	780	783	786	789	792	795	798	801	804	807	810	813	816	819	822	825	828	831	834	837	840	843	846	849	852	855	858	861	864	867	870	873	876	879	882	885	888	891	894	897	900	903	906	909	912	915	918	921	924	927	930	933	936	939	942	945	948	951	954	957	960	963	966	969	972	975	978	981	984	987	990	993	996	999	1002	1005	1008	1011	1014	1017	1020	1023	1026	1029	1032	1035	1038	1041	1044	1047	1050	1053	1056	1059	1062	1065	1068	1071	1074	1077	1080	1083	1086	1089	1092	1095	1098	1101	1104	1107	1110	1113	1116	1119	1122	1125	1128	1131	1134	1137	1140	1143	1146	1149	1152	1155	1158	1161	1164	1167	1170	1173	1176	1179	1182	1185	1188	1191	1194	1197	1200	1203	1206	1209	1212	1215	1218	1221	1224	1227	1230	1233	1236	1239	1242	1245	1248	1251	1254	1257	1260	1263	1266	1269	1272	1275	1278	1281	1284	1287	1290	1293	1296	1299	1302	1305	1308	1311	1314	1317	1320	1323	1326	1329	1332	1335	1338	1341	1344	1347	1350	1353	1356	1359	1362	1365	1368	1371	1374	1377	1380	1383	1386	1389	1392	1395	1398	1401	1404	1407	1410	1413	1416	1419	1422	1425	1428	1431	1434	1437	1440	1443	1446	1449	1452	1455	1458	1461	1464	1467	1470	1473	1476	1479	1482	1485	1488	1491	1494	1497	1500	1503	1506	1509	1512	1515	1518	1521	1524	1527	1530	1533	1536	1539	1542	1545	1548	1551	1554	1557	1560	1563	1566	1569	1572	1575	1578	1581	1584	1587	1590	1593	1596	1599	1602	1605	1608	1611	1614	1617	1620	1623	1626	1629	1632	1635	1638	1641	1644	1647	1650	1653	1656	1659	1662	1665	1668	1671	1674	1677	1680	1683	1686	1689	1692	1695	1698	1701	1704	1707	1710	1713	1716	1719	1722	1725	1728	1731	1734	1737	1740	1743	1746	1749	1752	1755	1758	1761	1764	1767	1770	1773	1776	1779	1782	1785	1788	1791	1794	1797	1800	1803	1806	1809	1812	1815	1818	1821	1824	1827	1830	1833	1836	1839	1842	1845	1848	1851	1854	1857	1860	1863	1866	1869	1872	1875	1878	1881	1884	1887	1890	1893	1896	1899	1902	1905	1908	1911	1914	1917	1920	1923	1926	1929	1932	1935	1938	1941	1944	1947	1950	1953	1956	1959	1962	1965	1968	1971	1974	1977	1980	1983	1986	1989	1992	1995	1998	2001	2004	2007	2010	2013	2016	2019	2022	2025	2028	2031	2034	2037	2040	2043	2046	2049	2052	2055	2058	2061	2064	2067	2070	2073	2076	2079	2082	2085	2088	2091	2094	2097	2100	2103	2106	2109	2112	2115	2118	2121	2124	2127	2130	2133	2136	2139	2142	2145	2148	2151	2154	2157	2160	2163	2166	2169	2172	2175	2178	2181	2184	2187	2190	2193	2196	2199	2202	2205	2208	2211	2214	2217	2220	2223	2226	2229	2232	2235	2238	2241	2244	2247	2250	2253	2256	2259	2262	2265	2268	2271	2274	2277	2280	2283	2286	2289	2292	2295	2298	2301	2304	2307	2310	2313	2316	2319	2322	2325	2328	2331	2334	2337	2340	2343	2346	2349	2352	2355	2358	2361	2364	2367	2370	2373	2376	2379	2382	2385	2388	2391	2394	2397	2400	2403	2406	2409	2412	2415	2418	2421	2424	2427	2430	2433	2436	2439	2442	2445	2448	2451	2454	2457	2460	2463	2466	2469	2472	2475	2478	2481	2484	2487	2490	2493	2496	2499	2502	2505	2508	2511	2514	2517	2520	2523	2526	2529	2532	2535	2538	2541	2544	2547	2550	2553	2556	2559	2562	2565	2568	2571	2574	2577	2580	2583	2586	2589	2592	2595	2598	2601	2604	2607	2610	2613	2616	2619	2622	2625	2628	2631	2634	2637	2640	2643	2646	2649	2652	2655	2658	2661	2664	2667	2670	2673	2676	2679	2682	2685	2688	2691	2694	2697	2700	2703	2706	2709	2712	2715	2718	2721	2724	2727	2730	2733	2736	2739	2742	2745	2748	2751	2754	2757	2760	2763	2766	2769	2772	2775	2778	2781	2784	2787	2790	2793	2796	2799	2802	2805	2808	2811	2814	2817	2820	2823	2826	2829	2832	2835	2838	2841	2844	2847	2850	2853	2856	2859	2862	2865	2868	2871	2874	2877	2880	2883	2886	2889	2892	2895	2898	2901	2904	2907	2910	2913	2916	2919	2922	2925	2928	2931	2934	2937	2940	2943	2946	2949	2952	2955	2958	2961	2964	2967	2970	2973	2976	2979	2982	2985	2988	2991	2994	2997	3000	3003	3006	3009	3012	3015	3018	3021	3024	3027	3030	3033	3036	3039	3042	3045	3048	3051	3054	3057	3060	3063	3066	3069	3072	3075	3078	3081	3084	3087	3090	3093	3096	3099	3102	3105	3108	3111	3114	3117	3120	3123	3126	3129	3132	3135	3138	3141	3144	3147	3150	3153	3156	3159	3162	3165	3168	3171	3174	3177	3180	3183	3186	3189	3192	3195	3198	3201	3204	3207	3210	3213	3216	3219	3222	3225	3228	3231	3234	3237	3240	3243	3246	3249	3252	3255	3258	3261	3264	3267	3270	3273	3276	3279	3282	3285	3288	3291	3294	3297	3300	3303	3306	3309	3312	3315	3318	3321	3324	3327	3330	3333	3336	3339	3342	3345	3348	3351	3354	3357	3360	3363	3366	3369	3372	3375	3378	3381	3384	3387	3390	3393	3396	3399	3402	3405	3408	3411	3414	3417	3420	3423	3426	3429	3432	3435	3438	3441	3444	3447	3450	3453	34

[illegible]

YEAR 1974

- 22

MAXIMUM SHORT DURATION PRECIPITATION

[illegible]

15 to 180 minutes)

MAXIMUM SHORT DURATION PRECIPITATION

[illegible]

MAXIMUM SHORT DURATION PRECIPITATION

MILWAUKEE, WIS.													DALLAS, TEXAS													SAN ANTONIO, TEXAS															
DATE	TIME	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12				
FEB	10	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
DATE	TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
FEB	10	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
DATE	TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
FEB	10	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
DATE	TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
FEB	10	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
DATE	TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
FEB	10	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
DATE	TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
FEB	10	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
DATE	TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
FEB	10	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
DATE	TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
FEB	10	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
DATE	TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
FEB	10	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
DATE	TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
FEB	10	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
DATE	TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
FEB	10	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
DATE	TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
FEB	10	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
DATE	TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
FEB	10	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
DATE	TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
FEB	10	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
DATE	TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
FEB	10	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
DATE	TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
FEB	10	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
DATE	TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
FEB	10	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
DATE	TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
FEB	10	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
DATE	TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
FEB	10	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
DATE	TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
FEB	10	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
DATE	TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
FEB	10	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
DATE	TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
FEB	10	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17</																									

R 197

[illegible]

Maximum peak intensities in d.b. (5 to 180 minutes)												
23	25	28	30	32	35	40	45	50	55	60	65	70
.079	.09	.10*	.13	.18	.21*	.23	.20	.23	.30*	.33		
.230	.230	.430	.230	.230	.230	.230	.340	.340	.340	.340		
.087	.07	.08	.09	.10	.11	.11	.11	.11	.11	.12		
.20	.21	.21	.21	.21	.21	.21	.21	.21	.21	.21		
.200	.230	.230	.230	.230	.230	.230	.230	.230	.230	.230		
.089	.16	.10	.12	.13	.18	.20	.22	.25	.27	.27		
.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07		
.075	.070	.1215	.1215	.1215	.1215	.1215	.1215	.1215	.1215	.1215		
.139	.22	.24	.30	.33	.38	.40	.42	.42	.42	.42		
.030	.030	.010	.010	.010	.010	.010	.010	.010	.010	.010		
.186	.26	.23	.43	.58	.65	.72	.66	.69	.69	.69		
.012	.022	.022	.012	.012	.012	.012	.012	.012	.012	.012		
.459	.60	.70	.74	.81	.87	.97	1.42	1.52	1.67	1.67		
.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06		
.070	.075	.075	.045	.045	.075	.075	.075	.075	.075	.075		
.579	.63	.77*	.67	.98	.98	1.02	1.03	1.14	1.14	1.14		
.95	.24	.25	.25	.25	.25	.25	.25	.25	.25	.25		
.196	.196	.196	.200	.200	.200	.200	.200	.200	.200	.200		
.28	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30		
.16	.16	.16	.16	.16	.16	.16	.16	.16	.16	.16		
.080	.0615	.0630	.085	.0905	.095	.925	.925	.925	.925	.925		
.10	.10	.14	.17	.22	.23	.25	.27	.27	.27	.27		
.058	.058	.058	.058	.0915	.095	.955	1.025	1.055	1.055	1.055		
.14	.14	.13	.18	.20	.22	.23	.27	.27	.27	.27		
.30	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30		
.030	.030	.190	.1945	.200	.200	.735	.190	.190	.190	.190		
.10	.12	.13	.16	.23	.25	.31	.38	.44	.44	.44		
.23	.23	.23	.23	.23	.23	.23	.23	.23	.23	.23		
.058	.145	.195	.195	.205	.205	.715	.10	.10	.10	.10		
.05	.07	.08	.08	.09	.11	.14	.17	.17	.17	.17		
.0315	.0315	.0315	.0315	.08	.08	.08	.08	.08	.08	.08		
.579	.63	.77*	.67	.98	.98	1.02	1.03	1.14	1.14	1.14		
.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07		
.04	.05	.08	.10	.13	.15	.16	.19	.20	.20	.20		
.04*	.21	.21	.21	.21	.21	.21	.21	.21	.21	.21		
.050	.050	.045	.050	.050	.050	.050	.050	.050	.050	.050		
.04	.04	.05	.06	.07	.08	.10	.10	.10	.10	.10		
.22	.22	.22	.22	.22	.22	.23	.23	.23	.23	.23		
.2240	.2240	.2305	.2325	.234	.005	.0225	.005	.0125	.0125	.0125		
.04	.05	.07	.10	.11	.12	.14	.13	.13	.13	.13		
.0737	.747	.757	.757	.757	.747	.747	.747	.747	.747	.747		
.14	.18	.23	.28	.34	.43	.55	.60	.67	.67	.67		
.19	.19	.19	.16	.20	.23	.26	.20	.20	.20	.20		
.1937	.1940	.1940	.1940	.0220	.0240	.730	.0245	.030	.030	.030		
.10	.10	.11	.13	.13	.16	.18	.19	.19	.19	.19		
.09	.09	.02	.02	.02	.02	.02	.02	.02	.02	.02		
.1121	.101	.0950	.0850	.0850	.0890	.040	.070	.070	.070	.070		
.1310	.1510	.1550	.0400	.0400	.0400	.7400	.0400	.0400	.0700	.0700		
.26	.26	.26	.26	.26	.26	.26	.26	.26	.26	.26		
.1339	.1348	.1405	.1418	.1438	.1458	.1518	.1498	.1518	.1498	.1635		
.16	.22	.32	.40	.50	.58	.64	.66	.70	.70	.70		
.1450	.1545	.1555	.1516	.1525	.1540	.1600	.1630	.1701	.1701	.1701		
.11	.13	.14	.15	.16	.18	.22	.24	.26	.26	.26		
.1648	.1648	.1648	.1930	.1930	.2000	.2030	.2046	.2135	.2135	.2135		
.10	.11	.11	.11	.12	.17	.18	.22	.24	.24	.24		
.26	.29	.30	.30	.30	.30	.30	.30	.30	.30	.30		
.2329	.2345	.0100	.0225	.023	.043	.0503	.0533	.0623	.0623	.0623		
.25	.26	.06	.10	.11	.12	.13	.14	.15	.15	.15		
.2306	.2311	.2326	.2321	.2254	.2314	.7316	.7316	.0006	.0006	.0006		
.02	.03	.03	.03	.03	.03	.04	.04	.05	.05	.05		
.05	.05	.05	.05	.05	.05	.04	.05	.05	.05	.05		
.1905	.1815	.1830	.1845	.1859	.1915	.1945	.2015	.2045	.2045	.2045		
.26	.27	.32	.40	.50	.58	.66	.70	.76	.76	.76		
.07	.07	.08	.08	.08	.08	.08	.08	.08	.08	.08		
.04	.06	.07	.08	.10	.11	.14	.15	.17	.17	.17		
.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03		
.0135	.0135	.0200	.0200	.0200	.0200	.0400	.0200	.0230	.0300	.0300		
.04	.04	.04	.11	.14	.13	.15	.17	.18	.18	.18		
.2043	.2043	.2043	.0105	.2125	.2140	.2205	.2235	.2235	.2235	.2235		
.05	.08	.12	.12	.13	.14	.17	.19	.21	.21	.21		
.0850	.0905	.0905	.0905	.0215	.0215	.0215	.0215	.0215	.0215	.0215		
.09	.10	.10	.14	.16	.17	.20	.20	.20	.20	.20		
.0444	.0444	.1228	.1228	.1228	.1370	.1324	.1346	.1418	.1418	.1418		
.19	.16	.17	.17	.17	.17	.17	.17	.20	.20	.20		
.2001	.2010	.2025	.2025	.2025	.2025	.7025	.7025	.0200	.0200	.0200		
.04	.05	.06	.08	.09	.12	.14	.16	.17	.17	.17		
.2100	.2100	.2100	.2115	.2130	.2115	.2115	.2115	.2115	.2115	.2115		
.16	.16	.16	.16	.16	.16	.18	.18	.18	.18	.18		
.02	.07	.02	.02	.02	.02	.02	.02	.02	.02	.02		
.0047	.0047	.0047	.0047	.0047	.0047	.0047	.0047	.0047	.0047	.0235		
.18	.18	.22	.26	.28	.31	.37	.37	.38	.38	.38		
.23	.23	.23	.23	.23	.23	.23	.23	.23	.23	.23		
.1451	.1450	.1488	.1508	.1528	.1548	.1608	.1608	.1608	.1608	.1608		
.08	.07	.09	.14	.14	.17	.20	.23	.28	.28	.28		
.28	.01	.01	.11	.01	.11	.11	.11	.01	.01	.01		
.130	.1525	.1535	.0640	.0645	.0670	.0630	.0630	.0740	.0740	.0740		
.14	.16	.25	.31	.36	.37	.51	.62	.60	.60	.60		
.0900	.0900	.0915	.0915	.0915	.1000	.1020	.1030	.1030	.1030	.1030		
.13	.13	.15	.19	.21	.23	.25	.27	.29	.29	.29		
.2125	.2125	.2145	.2145	.2145	.2145	.2245	.2245	.2245	.2245	.2245		
.01	.02	.02	.03	.04	.05	.05	.05	.05	.05	.05		
.26	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05		
.1665	.1045	.1045	.1045	.1130	.1140	.1145	.1145	.1145	.1145	.1145		
.18	.18	.25	.31	.36	.47	.51	.62	.60	.60	.60		
.08	.08	.10	.10	.10	.10	.10	.10	.10	.10	.10		

1000 10

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MAXIMUM SHORT DURATION PRECIPITATION

MAY 1961													MAY 1961													MAY 1961												
MAY 1961													MAY 1961													MAY 1961												
MAY 1961													MAY 1961													MAY 1961												
1	1.70	1.59	1.48	1.37	1.26	1.15	1.04	0.93	0.82	0.71	0.60	0.49	1.70	1.59	1.48	1.37	1.26	1.15	1.04	0.93	0.82	0.71	0.60	0.49	1.70	1.59	1.48	1.37	1.26	1.15	1.04	0.93	0.82	0.71	0.60	0.49		
2	1.60	1.49	1.38	1.27	1.16	1.05	0.94	0.83	0.72	0.61	0.50	0.39	1.60	1.49	1.38	1.27	1.16	1.05	0.94	0.83	0.72	0.61	0.50	0.39	1.60	1.49	1.38	1.27	1.16	1.05	0.94	0.83	0.72	0.61	0.50	0.39		
3	1.50	1.39	1.28	1.17	1.06	0.95	0.84	0.73	0.62	0.51	0.40	0.29	1.50	1.39	1.28	1.17	1.06	0.95	0.84	0.73	0.62	0.51	0.40	0.29	1.50	1.39	1.28	1.17	1.06	0.95	0.84	0.73	0.62	0.51	0.40	0.29		
4	1.40	1.29	1.18	1.07	0.96	0.85	0.74	0.63	0.52	0.41	0.30	0.19	1.40	1.29	1.18	1.07	0.96	0.85	0.74	0.63	0.52	0.41	0.30	0.19	1.40	1.29	1.18	1.07	0.96	0.85	0.74	0.63	0.52	0.41	0.30	0.19		
5	1.30	1.19	1.08	0.97	0.86	0.75	0.64	0.53	0.42	0.31	0.20	0.09	1.30	1.19	1.08	0.97	0.86	0.75	0.64	0.53	0.42	0.31	0.20	0.09	1.30	1.19	1.08	0.97	0.86	0.75	0.64	0.53	0.42	0.31	0.20	0.09		
6	1.20	1.09	0.98	0.87	0.76	0.65	0.54	0.43	0.32	0.21	0.10	0.00	1.20	1.09	0.98	0.87	0.76	0.65	0.54	0.43	0.32	0.21	0.10	0.00	1.20	1.09	0.98	0.87	0.76	0.65	0.54	0.43	0.32	0.21	0.10	0.00		
7	1.10	0.99	0.88	0.77	0.66	0.55	0.44	0.33	0.22	0.11	0.00	0.00	1.10	0.99	0.88	0.77	0.66	0.55	0.44	0.33	0.22	0.11	0.00	0.00	1.10	0.99	0.88	0.77	0.66	0.55	0.44	0.33	0.22	0.11	0.00	0.00		
8	1.00	0.89	0.78	0.67	0.56	0.45	0.34	0.23	0.12	0.01	0.00	0.00	1.00	0.89	0.78	0.67	0.56	0.45	0.34	0.23	0.12	0.01	0.00	0.00	1.00	0.89	0.78	0.67	0.56	0.45	0.34	0.23	0.12	0.01	0.00	0.00		
9	0.90	0.79	0.68	0.57	0.46	0.35	0.24	0.13	0.02	0.00	0.00	0.00	0.90	0.79	0.68	0.57	0.46	0.35	0.24	0.13	0.02	0.00	0.00	0.00	0.90	0.79	0.68	0.57	0.46	0.35	0.24	0.13	0.02	0.00	0.00	0.00		
10	0.80	0.69	0.58	0.47	0.36	0.25	0.14	0.03	0.00	0.00	0.00	0.00	0.80	0.69	0.58	0.47	0.36	0.25	0.14	0.03	0.00	0.00	0.00	0.00	0.80	0.69	0.58	0.47	0.36	0.25	0.14	0.03	0.00	0.00	0.00	0.00		
11	0.70	0.59	0.48	0.37	0.26	0.15	0.04	0.00	0.00	0.00	0.00	0.00	0.70	0.59	0.48	0.37	0.26	0.15	0.04	0.00	0.00	0.00	0.00	0.00	0.70	0.59	0.48	0.37	0.26	0.15	0.04	0.00	0.00	0.00	0.00	0.00		
12	0.60	0.49	0.38	0.27	0.16	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.49	0.38	0.27	0.16	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.49	0.38	0.27	0.16	0.05	0.00	0.00	0.00	0.00	0.00	0.00		
13	0.50	0.39	0.28	0.17	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.39	0.28	0.17	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.39	0.28	0.17	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
14	0.40	0.29	0.18	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.29	0.18	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.29	0.18	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
15	0.30	0.19	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.19	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.19	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
16	0.20	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
17	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.																			

STATION	Maximum precipitation in inches (1 to 10 minutes)										Maximum precipitation in inches (15 to 180 minutes)									
	1	2	3	4	5	6	7	8	9	10	15	20	30	45	60	90	120	150	180	
BOISE, IDAHO																				
DATE	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	
TIME	13:15	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	
BOULDER, COLORADO																				
DATE	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	
TIME	13:15	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	
BOULDER, COLORADO																				
DATE	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	
TIME	13:15	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	
BOULDER, COLORADO																				
DATE	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	
TIME	13:15	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	
BOULDER, COLORADO																				
DATE	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	
TIME	13:15	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	
BOULDER, COLORADO																				
DATE	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	
TIME	13:15	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	
BOULDER, COLORADO																				
DATE	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	
TIME	13:15	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	
BOULDER, COLORADO																				
DATE	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	
TIME	13:15	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	
BOULDER, COLORADO																				
DATE	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	
TIME	13:15	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	17:17	
BOULDER, COLORADO																				
DATE	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969</				

SUNSHINE, AMOUNT AND PERCENT

YEAR 1974

		January		February		March		April		May		June		July		August		September		October		November		December		Annual		
Station	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible
ALABAMA																												
BIRMINGHAM	100	32	176	57	277	61	271	69	247	57	261	61	229	52	220	53	156	42	263	75	180	58	114	37	2443	55		
MONTGOMERY	113	37	206	67	245	66	284	73	269	63	278	65	244	56	236	57	189	51	279	79	202	64	131	42	2682	60		
ALASKA																												
ANCHORAGE	106	52	84	33	165	45	163	37	346	64	309	54	301	53	260	53	206	53	100	32	62	29	19	11	2121	47		
JUNEAU	110	49	56	21	199	54	97	22	222	43	156	29	190	35	206	43	113	29	14	4	18	8	05	3	1386	31		
NOME	105	62	149	62	274	61	318	70	389	67	302	48	382	62	150	30	117	30	166	55	72	38	65	51	2440	53		
ARIZONA																												
FLAGSTAFF	160	51	256	82	313	84	370	94	419	97	402	92	328	74	383	92	331	89	268	77	239	77	257	84	3719	84		
PHOENIX	250	79	285	93	312	84	350	90	409	95	411	95	359	82	382	92	335	90	285	81	266	85	254	82	3898	88		
TUCSON	240	75	286	93	325	88	348	87	390	91	414	97	364	84	381	92	299	81	238	68	263	83	254	81	3801	86		
YUMA	262	82	298	96	378	88	374	96	401	93	414	97	373	85	403	98	357	96	325	92	297	94	287	92	4117	93		
ARKANSAS																												
FORT SMITH	116	37	196	64	213	57	248	63	250	57	297	68	356	80	257	61	166	45	205	59	168	54	140	46	2610	59		
LITTLE ROCK	104	33	187	61	213	57	318	81	334	77	373	86	382	87	335	80	280	75	283	81	191	51	158	52	3157	71		
CALIFORNIA																												
FUJERKA U	161	54	133	44	151	41	276	69	336	75	253	56	296	65	227	53	141	38	233	68	160	54	101	35	2467	55		
FRESNO	135	44	224	74	250	67	343	87	430	98	431	98	419	94	411	98	371	99	259	74	198	64	108	36	3578	80		
LOS ANGELES U	145	46	261	85	190	51	359	92	247	57	315	73	350	80	308	74	255	68	255	82	251	81	251	81	40	60		
RED BLUFF	170	57	250	83	279	75	361	91	436	98	432	96	429	94	411	97	373	100	293	85	234	78	156	54	3823	86		
SACRAMENTO	129	42	210	70	182	49	314	79	429	97	418	94	410	91	402	95	373	100	259	75	190	63	120	41	3435	77		
SAN DIEGO	199	62	266	86	284	68	329	84	209	49	264	62	292	67	239	58	224	60	174	49	231	73	270	87	2948	66		
SAN FRANCISCO U	192	62	247	82	189	51	235	59	366	83	328	74	323	72	246	54	238	64	218	63	159	52	154	52	2894	65		
COLORADO																												
DENVER	219	73	222	74	262	71	263	66	349	78	342	76	357	78	314	74	260	70	210	61	213	71	209	72	3220	72		
GRAND JUNCTION	132	44	259	86	203	55	236	59	334	75	347	78	359	79	377	89	336	90	214	62	232	77	165	56	3193	72		
PUEBLO	223	73	247	82	286	77	317	80	396	90	380	86	398	88	340	81	318	85	284	82	246	81	245	83	3661	93		
CONNECTICUT																												
HARTFORD	154	52	175	59	213	57	221	55	249	59	271	60	302	65	265	62	199	53	221	64	184	62	113	40	2566	58		
DIST/COLUMBIA																												
WASHINGTON NATIONAL	87	28	175	58	215	58	269	68	263	59	253	57	303	67	217	51	227	61	255	74	190	55	128	43	2582	58		
FLORIDA																												
APALACHICOLA U	228	70	260	83	314	85	346	89	330	78	291	69	270	63	238	58	273	60	318	90	198	62	158	50	3175	71		
JACKSONVILLE	212	66	243	78	245	66	307	79	331	78	331	78	256	59	273	54	211	57	263	74	246	77	194	61	3062	69		
KEY WEST	301	90	266	84	344	92	360	94	341	82	296	72	316	75	337	84	307	83	288	80	246	75	245	74	3645	82		
LAKELAND U	221	67	243	77	249	72	314	81	278	66	206	49	233	55	242	60	260	70	270	76	219	68	190	59	2945	66		
TAMPA	231	70	251	80	283	76	295	77	282	67	226	54	244	57	231	57	200	54	266	75	232	72	185	57	2927	66		
GEORGIA																												
ATLANTA	94	30	191	62	225	61	281	72	281	65	277	64	262	60	211	51	184	50	293	83	216	69	136	44	2652	60		
MACON	99	31	220	71	292	79	334	86	354	83	360	84	319	85	340	82	248	67	326	92	225	72	176	56	3344	75		
SAVANNAH	141	44	223	72	251	68	285	73	257	60	252	59	279	50	191	46	185	42	277	79	195	62	118	38	2563	58		
HAWAII																												
HIL	192	56	151	47	149	40	180	48	219	54	221	55	170	42	151	38	208	57	147	40	137	41	99	29	2023	46		
HONO HUL	179	53	250	78	233	62	229	60	224	55	211	52	253	61	236	59	246	67	236	65	181	54	226	67	2703	61		
KAHULUI	157	46	262	82	234	63	271	72	276	68	291	73	324	79	301	76	305	83	267	74	202	60	260	77	3150	71		
LIMU	157	46	273	77	218	58	201	53	256	63	257	64	280	68	273	68	260	71	241	67	172	52	159	47	2698	61		
IDAHO																												
BOISE	113	39	149	51	179	48	287	71	364	80	391	85	368	79	369	85	371	99	237	70	151	52	89	32	3074	69		
POCATELLO																												
ILLINOIS																												
CAIRO	65	21	165	54	166	45	255	65	250	57	328	74	351	78	275	66	201	54	257	74	124	40	97	32	2534	57		
CHICAGO MIDWAY	125	42	145	49	184	50	219	55	229	51	289	63	337	73	281	69	244	65	203	59	109	37	64	22	2427	54		
MOLINE	144	49	169	57	190	51	225	56	207	46	305	67	364	79	245	57	248	66	214	62	123	41	111	39	2542			

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SUNSHINE, AMOUNT AND PERCENT

YEAR 1974

Station	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible
SOUTH DAKOTA																										
HURON	197	68	164	54	224	71	230	57	220	48	373	80	320	68	305	70	375	87	230	67	141	56	156	56	2904	65
RAPID CITY	146	51	203	69	257	70	227	56	251	55	314	68	340	73	344	79	306	82	277	81	233	81	208	75	3106	70
TENNESSEE																										
CHATTANOOGA	69	22	135	44	192	52	272	69	258	59	303	70	262	59	203	49	142	38	262	75	203	65	112	37	2412	54
KNOXVILLE	89	29	152	50	190	51	289	73	229	53	314	49	282	64	305	74	241	68	276	79	189	61	118	39	2483	58
MEMPHIS	97	31	170	54	226	61	285	73	248	62	331	76	310	70	254	61	141	49	260	74	182	59	133	44	2496	61
NASHVILLE	65	21	135	44	182	49	250	64	228	52	285	65	307	69	220	53	173	46	271	78	137	44	91	30	2343	53
TEXAS																										
ABILENE	213	67	272	84	287	77	301	77	352	82	391	92	356	82	280	68	202	55	229	65	196	62	192	62	3271	74
AMARILLO	171	54	245	80	277	75	310	79	371	85	364	84	390	88	284	68	209	56	218	62	229	74	188	62	3255	73
AUSTIN	126	39	238	76	221	59	261	67	274	65	324	77	307	71	226	54	186	50	196	55	142	45	160	50	2460	60
BROWNSVILLE	93	28	197	62	200	54	235	61	272	65	350	85	369	88	352	87	289	78	241	67	172	53	109	33	2877	67
CORPUS CHRISTI	130	39	261	83	215	58	257	67	310	74	342	82	376	88	314	79	286	69	253	71	141	50	112	35	2584	67
EL PASO	242	76	288	93	346	93	359	92	389	91	399	94	306	71	248	60	261	70	265	75	247	78	239	76	3889	81
GALVESTON	97	30	221	71	183	49	255	66	263	62	333	79	306	71	240	59	178	48	249	70	158	49	172	54	2454	60
HOUSTON INTERCON	84	26	209	67	160	43	217	56	226	53	311	74	302	70	216	53	173	47	228	64	145	47	162	51	2436	55
LUBBOCK	218	69	291	95	320	86	263	67	334	78	352	82	335	76	266	64	212	57	215	61	230	73	181	58	3216	72
PORT ARTHUR	77	24	198	63	152	41	185	48	207	49	295	70	270	63	211	52	165	44	225	63	155	48	146	46	2285	51
SAN ANTONIO	116	36	228	70	160	43	230	60	249	59	371	88	305	71	213	52	177	48	167	47	130	40	118	37	2464	55
UTAH																										
MILPITAS	164	54	234	77	242	65	304	77	377	85	389	88	345	76	357	84	376	88	236	68	206	68	193	65	3371	76
SALT LAKE CITY	120	40	243	81	241	65	275	69	375	84	409	91	407	89	401	94	353	94	232	67	207	70	127	44	3388	76
VERMONT																										
BURLINGTON	96	33	148	51	159	43	171	42	158	34	242	52	287	61	285	66	177	47	203	60	89	31	70	25	2085	47
VIRGINIA																										
LYNCHBURG	102	33	181	60	222	60	271	69	268	61	273	62	293	65	246	58	232	62	251	72	200	66	134	45	2674	60
NUREKOV	177	58	224	60	289	73	289	73	289	73	289	73	289	73	289	73	289	73	289	73	289	73	289	73	289	73
RICHMOND	103	33	185	61	212	57	275	69	276	63	276	61	326	73	218	52	224	60	252	72	223	73	163	55	2726	61
WASHINGTON																										
QUILLAYUTE	66	24	35	12	42	22	78	19	155	33	198	41	155	32	190	43	225	60	168	50	34	12	33	13	1419	32
SEATTLE-TACOMA	85	31	123	43	143	39	154	38	268	57	335	70	292	61	328	74	297	79	239	71	58	21	65	25	2387	53
SPOKANE	86	31	95	33	154	42	193	47	289	62	396	83	302	67	331	74	331	88	246	73	40	14	56	21	2470	55
WALLA WALLA U	51	22	95	33	147	40	168	41	254	55	391	83	349	73	331	76	334	89	223	66	53	19	64	24	2470	55
WEST INDIES																										
SAN JUAN P.R.	212	61	228	71	305	82	304	81	285	71	224	57	231	57	220	56	170	46	159	44	42	12	274	80	2655	60
WEST VIRGINIA																										
PARKERSBURG U	65	21	139	46	188	51	251	63	196	44	258	58	304	67	250	59	141	43	218	63	138	46	82	28	2250	51
WISCONSIN																										
GREEN BAY	131	45	146	50	132	36	225	56	279	61	299	64	279	59	227	52	130	35	134	39	99	34	107	39	2188	49
MADISON	128	44	155	52	165	45	206	51	213	47	266	58	311	67	247	57	235	63	178	52	107	37	76	27	2287	51
MILWAUKEE	134	46	154	52	153	41	197	49	213	47	284	62	330	71	253	59	225	60	155	45	101	35	69	25	2267	51
WYOMING																										
CHEYENNE	155	52	215	72	219	59	247	62	279	62	289	64	278	61	303	71	262	70	211	61	185	62	179	62	2821	63
LANDER	182	62	219	74	249	67	270	67	324	71	372	81	343	72	335	74	291	78	214	63	176	60	187	66	3152	71
SHERIDAN	140	49	183	63	206	56	211	52	233	51	366	79	343	73	286	66	272	72	245	72	186	65	149	54	2819	63

Data from airport unless otherwise specified.
"U" indicates Urban, "R" indicates Rural, sites.

ANNUAL CLIMATOLOGICAL DATA

METRIC UNITS

YEAR 1974

State and Station	Temperature				Heating degree days		Cooling degree days		Precipitation				Relative humidity		Wind				Number of days			
	Averages		Extremes		Date	Base 65° F	Date	Base 65° F	Total	Greatest in 24 hours	Date (s)	Total	Greatest in 24 hours	Date (s)	Average speed	Residual speed	Residual direction	Speed	Direction	Fastest mile (16 kilometers)	Average sky cover	Sunrise to sunset
	Daily maximum	Daily minimum	Annual	Highest	Lowest																	
ALABAMA	C	C	C	C	C	Base 65° F	Base 65° F	Base 65° F	mm	mm	Date (s)	mm	mm	Date (s)	%	%	%	m.s.	m.s.	Date	Tenths	Clear, 0-3
BIRMINGHAM	23.1	11.2	17.2	35.0	-7.8	DEC 26	911	1422	76	23-24	DEC 10	10	10	DEC 1	84	69	62	2.8	0.3	SW	6.2	93
HUNTSVILLE	21.8	10.3	18.1	35.6	-7.2	DEC 18	1538	776	1633	93	26-27	46	25	1	84	88	62	3.5	0.4	32	6.0	111
MOBILE	25.2	15.3	20.3	35.6	-3.9	FEB 26	644	1416	1563	173	7-8	0	0	DEC	83	87	59	3.6	0.4	30	5.9	94
MONTGOMERY	24.4	12.4	18.4	34.4	-5.6	DEC 26	995	1078	1267	93	23-26	T	T	1	85	89	60	2.8	0.2	SW	5.6	118
ANCHORAGE	5.9	-2.2	1.9	25.6	-27.8	JUL 20	5935	1	341	15	13-14	1928	163	30-31	77	66	74	3.0	0.2	04	7.6	44
ANNETTE	10.1	3.9	7.0	28.3	-13.3	JAN 15	4095	7	2791	83	21-22	2294	257	21-22	80	74	83	4.4	2.1	14	8.2	32
BARRON	X	-11.8	-17.6	18.9	-46.1	DEC 20	11998	0	78	9	27-28	450	53	29-30	82	80	82	4.5	1.3	11	9.2	57
BARTER ISLAND	V	-12.5	-17.1	25.6	-45.6	DEC 28	12292	0	74	12	10-11	719	170	10-11	83	82	83	6.5	0.1	27	7.0	87
BETHEL	1.7	-6.4	-2.3	27.8	-37.2	DEC 27	7483	2	377	39	3-4	1054	208	1-2	74	62	68	5.4	1.7	22	7.0	87
BETTLES	-1.8	-12.4	-7.1	31.1	-50.6	JUL 13	8068	7	239	25	27-28	1003	241	11-12	67	56	62	3.0	0.2	04	7.6	44
BIG DELTA	1.3	-9.2	-3.9	29.4	-48.4	JAN 30	8068	7	239	25	27-28	1003	241	11-12	67	56	62	3.0	0.2	04	7.6	44
COLD BAY	5.8	.4	3.1	17.2	-18.3	AUG 25	8035	41	196	12	29	2162	264	10-17	63	52	57	2.5	0.7	25	9.0	4
FAIRBANKS	1.4	-8.9	-3.8	28.3	-45.0	DEC 25	8035	41	196	12	29	2162	264	10-17	63	52	57	2.5	0.7	25	9.0	4
GULFANA	2.7								270			1399			71	56	66					
HOMER	6.6	-1.7	7.4	21.1	-22.2	JAN 20	5738	0	672	42	21-22	3094	419	21-22	80	71	78	3.7	2.4	13	8.5	34
JUNEAU	8.0	.4	4.2	25.6	-24.4	FEB 15	5087	0	1622	67	23-24	2700	406	3-4	81	73	83	4.6	0.5	08	8.5	34
KING SALMON	4.9	-4.4	.3	25.6	-40.6	JUL 15	6521	0	481	45	20-22	1089	239	1-18	77	64	72	4.6	0.5	08	7.5	50
KODIAK	7.2	1.1	4.2	26.1	-17.8	JUL 30	5123	2	1814	113	29-30	2047	170	13-14	80	74	80	4.9	1.4	30	7.2	62
KOTZEBE	-3.9	-11.2	-7.6	26.1	-43.9	DEC 16	9385	0	174	24	27-28	716	114	10-11	73	69	72	5.3	0.8	15	4.9	184
MC GRATH	1.3	-10.2	-4.4	28.3	-38.9	DEC 30	8256	6	300	29	27-28	2080	216	2	72	56	63	2.6	0.7	20	6.5	93
NOME	-7	-8.6	-4.6	24.4	-38.9	JUL 30	8322	1	271	32	26-27	861	127	9-10	74	68	73	4.3	1.3	17	5.5	137
ST. PAUL ISLAND	2.5	-1.8	.4	12.2	-29.1	DEC 29	6483	0	494	27	11-13	1471	76	20	70	68	74	3.8	2.2	27	8.8	4
SUMMIT	.5	-8.1	-3.8	23.3	-36.7	DEC 29	8021	0	503	39	2-3	3459	318	12	77	68	74	20.6	0.7	07	7.3	64
TALKEETNA	6.2	-5.3	.4	26.7	-37.2	JAN 26	6466	0	488	41	26-27	3589	373	2-3	70	58	69	13.9	0.3	03	7.3	64
UNALASKET																						
YAKUTAT	7.2	.2	3.7	23.9	-23.9	JUN 26	5280	0	3714	198	13-16	5288	277	16-17	84	78	87	3.4	1.6	14	8.4	32
ARIZONA																						
FLAGSTAFF	17.0	-3.3	8.3	34.4	-27.2	DEC 24	3710	129	442	31	29-30	2248	343	29-30	39	37	60	3.3	1.1	22	4.2	176
PHOENIX	30.5	15.2	22.8	46.7	-9.3	DEC 24	676	2381	208	29	4-5	T	T	25	30	21	38	3.3	0.4	16	3.0	229
TUCSON	27.0	12.2	19.6	42.8	-8.9	DEC 23	1028	1549	303	38	7-8	10	10	DEC	32	25	43	3.6	1.0	18	3.6	212
WINLOW	21.5	3.6	12.6	39.4	-21.7	DEC 14	2746	703	198	56	JAN 1	193	84	23	37	29	50	3.8	1.6	22	4.2	176
YUMA	30.7	15.8	23.3	46.7	-6.6	DEC 27	541	2396	30	10	7-8	0	0		33	23	42	3.5	0.3	25	2.8	242
ARKANSAS																						
FORT SMITH	21.8	9.3	18.6	40.6	-12.2	JAN 22	1809	871	1134	100	1-2	58	51	29	79	84	58	3.2	0.2	5	5.9	110
LITTLE ROCK	22.4	10.7	16.6	40.6	-9.4	JUL 1	1563	993	1472	202	21-22	8	8	3	82	86	60	3.6	0.5	22	6.1	98

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA METRIC UNITS

YEAR 1974

State and Station	Temperature				Precipitation				Relative humidity				Wind				Number of days																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
	Averages		Extremes		Heating degree days		Cooling degree days		Snow †		Snow †		Snow †		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind		Wind	

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA METRIC UNITS

YEAR 1974

State and Station	Temperature				Heating degree days Base 65°F	Cooling degree days Base 65°F	Precipitation				Relative humidity				Wind				Number of days																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	Averages		Extremes				Total	Snow		100% RH	70% RH	50% RH	Average speed	Residual speed	Residual direction	Speed	Direction	Fastest mile (1.6 kilometers)	Average sky cover	Clear, 0-3	Partly cloudy, 0.4-0.7	Cloudy, 0.8-1.0	Precipitation ≥5mm or more	Snow ≥5mm or more	Thunderstorms	Heavy fog	32°C and above	0°C and below	Min. temp. 0°C and below																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
	Daily maximum	Daily minimum	Annual	Highest				Lowest	Date																					Date	mm	inches	Greatest in 24 hours	Greatest in 24 hours	mm	inches	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA

METRIC UNITS

YEAR 1979

State and Station	Temperature				Heating degree days Base 63° F	Cooling degree days Base 63° F	Precipitation			Relative humidity			Wind				Average sky cover Sunrise to sunset	Number of days				Max Temp C and F	Min Temp C and F													
	Averages		Extremes	Date			Lowest	Total	Greatest in 24 hours	Date (s)	700am EST	1000m EST	700pm EST	Average speed	Resultant speed	Direction		Speed (16 kilometers)	Direction	Date	Tenths			Clear, 0-3	Partly cloudy, 0-4-7	Cloudy, 08-10	Precipitation 25mm or more	Snow 1/2mm or more	Thunderstorms	Heavy fog						
	Daily maximum	Daily minimum																													Annual	Highest				
INDIANA																																				
EVANSVILLE	18.9	8.4	13.7	36.7	20	1	2318	683	1099	53	10-11	198	71	NOV	78	80	82	64	3.4	0.7	23	16.1	S	APR 7	6-5	79	1-9	177	126	4	47	55	27	17	73	3
PORT WYNE	15.1	4.5	9.8	36.7	14	1	1442	404	801	35	9	1069	132	13-14	79	82	62	67	4.9	1.3	24	21.9	N	NOV 30	7-0	64	1-4	192	1-5	16	37	30	13	27	124	7
INDIANAPOLIS	16.7	6.2	11.4	33.9	18	1	2915	472	1049	49	22-23	673	163	24	83	87	66	71	4.4	1.1	23	16.7	S	NOV 26	7-0	57	1-7	201	140	10	49	25	9	21	105	4
SOUTH BEND	15.3	5.4	10.4	37.2	14	1	3242	419	943	52	11-12	1659	1-7	20-21	79	82	62	67	4.4	1.4	23	16.4	S	SEP 14	7-0	64	1-0	211	159	25	37	70	16	34	111	4
INDA																																				
BURLINGTON	15.3	5.1	10.2	35.6	18	1	3315	422	1015	45	5-6	724	152	19-20	78	81	65	66	4.0	0.8	24	16.1	E	NOV 27	6-4	84	1-2	177	120	11	55	18	14	34	122	7
MES MOINES	15.4	4.8	10.2	40.0	21	1	3422	511	966	97	28	970	152	21-22	74	78	59	60	4.5	0.4	23	17.9	E	FEB 14	6-1	112	1-2	171	110	12	49	19	29	44	124	18
ELKHART	12.4	2.9	7.8	35.0	8	1	4053	275	980	52	21	1118	157	29-30	79	62	67	67	4.8	3.2	18	17.9	S	NOV 22	5-8	104	1-2	168	91	14	44	17	35	47	146	13
STOKES CITY	16.3	3.7	16.0	39.4	19	1	3521	544	456	43	31-1	564	94	14-15	69	75	54	52	4.8	3.2	18	17.9	S	NOV 22	5-8	104	1-2	168	91	14	44	17	35	47	146	13
WATERLOO	13.4	2.4	8.0	36.1	2	1	4044	357	752	59	28	653	175	21	78	81	61	64	4.1	0.5	24	15.6	S	NOV 9	6-5	74	1-8	152	111	7	44	72	11	56	167	18
KANSAS																																				
CONCORDIA	18.5	5.8	12.2	41.7	21	1	2895	701	462	51	5-6	394	71	9-10	74	82	56	55	4.4	1.1	19	23.2	S	NOV 27	5-5	134	7-6	155	76	9	56	14	47	25	115	14
PODGE CITY	20.4	6.7	13.4	41.7	24	1	2588	821	504	81	1	193	53	30-31	69	75	48	47	4.1	0.9	19	24.6	S	NOV 27	5-2	134	1-6	164	72	3	51	18	59	18	117	18
TOPOLAND	18.3	2.4	16.4	39.4	20	1	3297	462	334	98	8-9	922	150	3	48	46	70	78	5.9	1.0	23	18.3	S	NOV 27	5-0	144	1-8	112	64	12	33	15	47	11	151	11
TOPEKA	18.7	5.9	12.3	40.6	21	1	2779	652	793	49	5-6	391	122	9-10	76	81	57	57	4.1	0.6	23	20.1	NE	NOV 17	6-0	111	1-8	166	101	8	54	13	41	11	117	14
WICHITA	19.7	7.2	13.4	41.7	23	1	2588	815	725	58	19-20	282	58	3	75	80	57	58	4.5	1.1	18	26.6	E	NOV 17	5-7	121	1-8	140	90	4	48	15	53	15	177	10
KENTUCKY																																				
COWINGTON	17.2	6.7	11.9	32.8	9	1	2792	500	1188	88	22-23	493	152	30-31	79	83	62	66	3.8	1.2	23	16.5	S	NOV 27	7-0	64	1-6	195	137	6	42	17	4	11	92	1
LEXINGTON	18.2	7.4	12.8	31.1	2	1	2420	482	1526	82	28-29	216	56	8	79	84	64	68	4.0	1.4	23	13.4	S	NOV 27	6-8	60	1-4	182	153	3	47	23	6	12	104	1
LOUISVILLE	18.4	8.4	13.4	32.8	3	1	2290	586	1090	55	11	175	71	23-24	75	80	60	61	4.0	1.0	23	24.1	S	NOV 3	7-0	64	1-9	183	138	3	48	7	3	14	70	1
LOUISIANA																																				
ALEXANDRIA	24.2	13.1	19.1	37.2	22	1	935	1295	1410	152	12-13	0	0	0	60	67	60	67	3.6	0.5	14	20.6	S	AUG 18	5-7	110	1-10	144	114	0	78	24	11	1	1	1
BATON ROUGE	24.2	14.6	20.4	34.4	13	1	649	1467	1447	77	25-27	0	0	0	83	88	58	65	3.8	0.9	13	15.6	S	JUN 23	6-0	94	1-16	156	100	0	71	17	71	1	15	1
LAKE CHARLES	25.4	15.3	20.4	35.6	13	1	647	1472	1688	99	21-22	0	0	0	87	90	63	72	4.9	1.3	12	17.0	S	JUN 26	5-9	104	1-16	156	100	0	69	17	54	1	15	1
NEW ORLEANS	25.0	15.3	20.4	35.6	12	1	576	1475	1849	118	26-27	0	0	0	84	87	64	71	3.8	0.8	12	15.6	S	JUN 26	6-0	94	1-16	156	100	0	71	17	54	1	15	1
SHREVEPORT	24.2	12.5	18.3	37.8	23	1	1139	1202	1561	104	7	0	0	0	86	90	63	66	3.7	0.6	17	15.6	S	JUN 24	6-0	104	1-16	156	100	0	69	17	54	1	15	1
MAINE																																				
FARIBOU	8.6	-2.1	3.3	30.6	22	1	9562	64	894	42	17-18	3033	394	20-27	73	56	64	64	4.0	1.0	29	19.2	N	NOV 31	7-2	54	1-1	168	160	25	1	1	1	1	1	
PORTLAND	12.8	2.3	7.6	31.1	4	1	4022	164	1166	74	16-17	1148	170	9-10	80	78	60	72	4.0	1.0	29	19.2	N	NOV 31	6-5	89	1-9	164	139	14	19	13	1	1	1	
MARYLAND																																				
BALTIMORE	18.4	7.4	13.4	35.6	9	1	2446	577	959	54	29-30	234	160	18	77	80	58	64	3.8	1.2	28	16.2	E	DEC 1	6-2	93	1-9	164	131	3	33	14	1	1	1	
MASSACHUSETTS																																				
BLUE HILL OBS	14.2	4.3	9.2	33.3	10	1	1584	291	1222	73	15-16	1181	236	9	80	81	59	70	4.4	1.7	28	27.3	N	NOV 31	6-5	84	1-10	177	130	11	13	19	1	1	1	
BOSTON	14.8	6.7	10.4	33.0	10	1	1144	339	1022	67	15-16	1080	282	18	73	73	57	65	4.4	1.7	28	27.3	N	NOV 31	6-5	84	1-10	177	130	11	13	19	1	1	1	
WORCESTER	13.1	3.4	8.3	32.2	10	1	1844	239	1435	90	26-29	1199	203	2	75	78	64	71	4.8	2.2	26	16.2	S	NOV 31	6-6	74	1-11	177	130	11	13	19	1	1	1	

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ANNUAL CLIMATOLOGICAL DATA

METRIC UNITS

YEAR 1974

State and Station	Temperature				Precipitation				Relative humidity				Wind				Number of days																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
	Averages		Extremes		Heating degree days Base 18°C	Cooling degree days Base 18°C	Total	Snow +			1000m EST			700m EST			700pm EST			Average speed m/s	Resultant speed m/s	Resultant direction	Speed m/s	Direction (16 kilometers)	Fastest mile (16 kilometers)	Date	Average sky cover Tenths	Sunrise to sunset																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
	Daily maximum	Daily minimum	Annual	Highest				Date	Lowest	Date	Greatest in 24 hours	Date (s)	Total	Greatest in 24 hours	Date (s)	1000m EST	700m EST	700pm EST	Clear, 0-3									Partly cloudy, 0-4	Cloudy, 0-8	Precipitation 25mm or more	Snow 1mm or more	Thunderstorms	Heavy fog	Max temp 32°C and above	Min temp 0°C and below	17-18°C and below																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA METRIC UNITS

YEAR 1974

State and Station	Temperature				Precipitation				Relative humidity			Wind			Number of days														
	Averages		Extremes		Total	Greatest in 24 hours	Cooling degree days Base 65°F (18.3°C)	Heating degree days Base 65°F (18.3°C)	Snow † Greatest in 24 hours	Date	Speed	Direction	Fastest mile (1.6 kilometers)	Date	Average sky cover sunrise to sunset	Clear, 0-3	Partly cloudy, 0.4-0.7	Cloudy, 0.8-1.0	Precipitation 25mm or more	Thunderstorms	Heavy fog	Max temp 32.2 C and above	Min temp -17.8 C and below						
	Daily maximum	Daily minimum	Annual	Highest																				Lowest	Date	Date			
	C	°C	°C	°C																				°C					
NEBRASKA															Tenths														
OMAHA	16.3	3.2	9.8	40.0	-32.8	JAN 12	JUN 14	5799	506	501	140	5-6	DEC 20-27	632	107	20-27	DEC 15	5.7	10.9	173	133	82			40	43	145	12	
NORTH PLATTE	17.4	7	9.1	38.3	-30.6	JAN 18	JUN 14	5723	388	309	76	8-9	DEC 10	323	104	14	NOV 13	5.2	12.8	176	111	66	4	47	12	42	30	175	17
WARREN	17.3	3.9	10.6	43.3	-30.0	JAN 12	SEP 12	5323	567	513	58	11-12	DEC 10	823	117	14-15	AUG 16	5.8	11.9	96	156	97	11	48	17	37	35	140	11
SCOTTSBLUFF	17.7	9	9.5	38.9	-31.7	JAN 11	MAR 6	5641	405	230	43	10-11	MAR 11	942	381	10-11	JUL 28	5.2	13.6	114	121	65	8	37	4	45	22	171	15
VALLENTINE	15.9	1.2	9.1	41.7	-30.6	JAN 11	MAR 11	5760	448	268	36	10-20	MAR 11	300	64		MAY 19	4.9	14.0	105	111	69	6		46	31	176	16	
NEVADA																													
ELKO	16.2	1.1	8.6	36.7	-22.2	JAN 31	DEC 16	5715	200	121	16	28	OCT 12	434	76		DEC 23	4.8	15.9	87	123	46	9	9	4	45	25	188	4
ELY	16.8	-2.2	7.3	35.6	-24.4	JAN 2	OCT 4	4086	116	107	20	4	MAR 2	787	196	2	JUN 9	4.9	13.9	121	109	51	9	23	4	28	23	220	15
LAS VEGAS	26.6	12.6	19.6	44.4	-11.1	JAN 13	JAN 23	1363	1891	115	23	4-5	JAN 4	340	229	4-5	FEB 9	3.3	22.6	82	63	30	3	15	1	142	2	32	0
RENO	19.6	-5.5	9.6	36.7	-20.6	JAN 29	OCT 29	9281	143	137	137	15-17	MAR 17	579	117		FEB 28	4.2	17.8	91	96	46	9	6	5	55	34	189	6
WINNEMCCA	19.9	-4.4	9.8	40.6	-26.1	JAN 31	OCT 31	9389	322	161	18	28-29	MAR 17	681	142	2-3	MAR 1	4.6	16.6	93	112	59	12	7	2	84	18	188	11
NEW HAMPSHIRE																													
CONCORD	13.8	0	6.9	33.9	-30.0	JAN 20	MAR 20	4284	168	875	58	16-17	DEC 17	1372	178		MAR 10	6.6	8.8	189	132	15	17	-4	11	46	190	18	
WASHINGTON CBS	13	-7.2	-3.4	17.8	-32.8	JAN 13	AUG 17	7866	0	3074	87	23-24	MAR 24	79	645	23-24	MAY 27	8.1	41	55	269	277	98	23	324	0	184	246	66
NEW JERSEY																													
ATLANTIC CITY	17.9	6.8	12.4	35.0	-13.9	JAN 10	AUG 9	5591	503	926	55	9-10	FEB 8	267	211	8	DEC 09	6.4	7.8	113	174	113	2	28	40	13	6	96	0
NEWARK	17.3	8.2	12.8	36.7	-14.4	JAN 18	AUG 29	5572	625	985	87	17	FEB 8	495	117	8	MAY 30	6.5	7.8	118	169	113	7	25	13	18	14	83	0
TRENTON	17.2	7.7	12.4	35.0	-12.2	JAN 16	DEC 16	5627	543	1080	61	16	FEB 25	549	152	25	DEC 2	6.3	8.8	116	161	114	6			12	13	82	0
NEW MEXICO																													
ALBUQUERQUE	21.5	5.9	13.7	40.6	-16.1	JAN 28	SEP 20	2374	752	250	29	20-21	JAN 2	427	114		JUL 4	4.6	15.0	108	98	73	4	42	13	74	12	112	0
CAYTON	19.7	3.9	11.8	36.1	-20.6	JAN 4	JUN 29	2749	427	295	42	7-8	JAN 1-2	272	71	1-2	AUG 2	4.6	17.6	86	109	64	5			34	13	133	2
ROSELLE	23.4	7.7	15.6	38.9	-12.8	JAN 18	AUG 11	1888	920	474	59	11	DEC 25	66	28			4.4	15.2	125	88	50	2	34	15	83	4	99	0
NEW YORK																													
ALBANY	13.7	1.8	7.8	33.3	-25.6	JAN 18	JUL 14	4001	214	977	51	28-30	JUL 8-9	1372	272	8-9	MAR 10	7.2	5.6	100	209	148	13	31	26	3	44	168	14
RICHMOND	12.3	3.2	7.8	33.3	-17.2	JAN 18	JUL 14	3995	207	840	42	14-15	APR 8-9	1979	226	8-9	FEB 23	7.4	4.1	110	214	161	22	27	52	1	67	153	0
BUFFALO	12.9	4.1	8.5	32.2	-17.8	JAN 18	JUL 14	3748	238	922	33	21	NOV 15	320	14-15	APR 8	APR 8	7.8	3.8	89	240	186	32	29	18	1	54	136	1
NEW YORK	16.9	8.2	12.6	35.0	-14.4	JAN 14	JAN 14	2626	604	1211	84	3-4	FEB 15	531	152		JAN 11	6.1	8.9	121	149	119	6	26	17	19	80	0	
NEW YORK KENNEDY	16.3	8.3	12.3	36.1	-12.2	JAN 9	JUL 18	2650	538	942	62	16	DEC 16	546	160		DEC 2	6.1	9.5	121	149	110	7	16	30	10	19	74	0
NEW YORK LA GUARDIA	16.2	8.0	12.4	35.0	-13.9	JAN 4	FEB 18	2685	565	1057	67	1-2	FEB 8	434	127		DEC 2	6.4	8.9	122	160	118	6	25	9	13	18	70	0
ROCHESTER	13.9	3.4	8.7	34.4	-19.4	JAN 15	MAY 15	3755	300	930	98	10-17	MAR 18	2614	267	17-18	JUN 24	7.5	5.1	87	227	184	34	29	6	7	49	142	4
SYRACUSE	13.2	3.3	8.3	34.4	-20.6	JAN 18	JUL 18	3820	225	1276	103	2-3	JUL 30-31	2845	244	30-31	MAR 27	7.4	4.7	101	217	170	31	35	8	4	47	134	6
NORTH CAROLINA																													
ASHEVILLE	25.2	7.1	13.7	32.2	-10.6	JAN 27	SEP 22	7087	406	1230	73	3-4	DEC 30-31	191	135	30-31	NOV 32	6.1	10.1	161	163	134	3	55	90	1	1	45	0
CAPE HATTERAS	21.5	13.4	17.4	36.4	-3.3	JAN 15	FEB 15	1181	929	1445	136	3-4	MAR 0	0			FEB 23	6.2	9.8	93	174	129	0	46	16	0	1	1	0
CHARLOTTE	21.3	9.9	15.6	33.9	-8.3	JAN 22	SEP 22	1668	743	1252	98	SEP 36	MAR 36	36			FEB 23	6.3	9.7	103	176	108	1	44	44	14	1	55	0
GREENSBORO	20.6	8.9	14.8	36.1	-10.0	JAN 26	SEP 26	1905	661	1155	61	6-7	MAR 25	114	114		MAR 30	6.3	8.9	98	178	177	1	42	43	15	1	63	0

See reference notes at end of table

YEAR 1974

See reference notes at end of table

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See reference notes at end of table

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See reference notes at end of table

YEAR 1974

Data from airport unless otherwise specified. U Indicates Urban, R Indicates Rural, Sites.
Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis
noted toward to calendar day - data may include precipitation with a measurable amount
from the last day of the previous month or the first day of the following month.
Wind directions under resultant direction are in tens of degrees.
Values entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the
fastest mile was recorded. These values are not to be confused with the "Fastest Mile" value
shown on the "Fastest Mile" data can be evaluated.
Data in this table are obtained by conversion from data in the English Units table.

NORMALS, MEANS AND EXTREMES

YEAR 1974

State and Station	Elevation Ground (Meters)	Temperature (° C)				Normal Heating (1941-1970)				Precipitation (Millimeters)				Relative Humidity (Percent)				Wind Speed (m p.s)		Sunshine (% of Possible)		Annual Mean Number of Days																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
		Normal (1941-1970)				Extremes				Normal (1941-1970)				Extremes				Mean Speed				Sunrise to Sunset		Snow @																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
		January				Record				January				Maximum				January				July				January		January																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
		Maximum	Minimum	Daily	Annual	Length (Yrs)	High	Low	Record	Lowest	Wettest	Driest	Month	Annual	Wettest	Driest	Month	Maximum	In 24 Hours	January	Seasonal	Ex-reme	January	July	7 00 p.m EST	1 00 p.m EST	7 00 a.m EST	1 00 p.m EST	7 00 p.m EST	7 00 p.m EST	Fastest Mile	Mean Speed	July	January	Clear	Partly Cloudy	Precipitation 25mm or More	Snow, Sheet or More 25mm or More	Thunderstorms	VI	VI	Max	Min	Temperature																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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YEAR 1976

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NORMALS, MEANS AND EXTREMES

YEAR 1974

State and Station	Elevation Ground (Meters)	Temperature (°C)				Normal Heating Degree Days (1941-1970)				Precipitation (Millimeters)				Snow @		Relative Humidity (Percent)				Wind Speed (m.p.s.)		Annual Mean Number of Days																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
		Normal (1941-1970)		Extremes		Normal (1941-1970)		Extremes		Normal (1941-1970)		Extremes		Mean Total		Ex-treme		January		July		January		July		Sunrise to Sunset		Temperature																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
		January		Record		Wettest		Record		Wettest		Record		January		Maximum		1:00 p.m. EST		7:00 a.m. EST		1:00 p.m. EST		7:00 p.m. EST		Clear		Partly Cloudy		Cloudy		Snow, Sleet, Hail		Thunderstorms		Heavy Fog																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
		Maximum	Minimum	Maximum	Minimum	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest	Driest	Wettest

State and Station	Temperature (°C)										Normal Heating Degree Days (1941-1970)										Precipitation (Millimeters)										Relative Humidity (Percent)										Wind Speed (m.p.s.)										Sunshine (Hours Possible)										Annual Mean Number of Days																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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NORMALS, MEANS AND EXTREMES

YEAR 1974

State and Station	Elevation Ground (Meters)	Temperature (°C)				Normal Heating Degree Days (1941-1970)		Precipitation (Millimeters)				Relative Humidity (Percent)				Wind Speed (m p.s.)		Sunshine (% of Possible)		Annual Mean Number of Days					
		Normal (1941-1970)				Extremes		Normal (1941-1970)		Extremes		Snow @		Humidity (Percent)		Wind Speed (m p.s.)		Sunshine (% of Possible)		Annual Mean Number of Days					
		July				Record		Annual		Wettest		Mean Total		January		Fastest Mile (1.6 Kilometers)		Sunrise to Sunset		Annual Mean Number of Days					
		Maximum	Minimum	Daily	Length (Yrs)	Highest	Lowest	Wettest	Driest	Wettest	Driest	January	July	Maximum	In 24 Hours	January	July	Clear	Partly Cloudy	Precipitation 25mm or More	Thunderstorms	Heavy Fog	VI	Max	Min
		Daily	Minimum	Daily	Length (Yrs)	Highest	Lowest	Wettest	Driest	Wettest	Driest	January	July	Maximum	In 24 Hours	January	July	Clear	Partly Cloudy	Precipitation 25mm or More	Thunderstorms	Heavy Fog	VI	Max	Min
PACIFIC AREA																									
CANTON ISLAND 1966	2	31.3	25.4	25.4	28.6	20	36.7	21.1	36.7	74.8	28	110	28	141	36.7	0	0	0	0	0	0	0	0	0	0
ENRIEPTOK 1966	2	29.2	24.4	24.4	27.9	13	34.4	21.8	34.4	62.3	26	130.7	26	117	34.4	0	0	0	0	0	0	0	0	0	0
MARCS ISLAND 1968	4	24.4	20.1	20.1	25.9	18	35.0	12.2	35.0	108.1	41	108.1	41	144	35.0	0	0	0	0	0	0	0	0	0	0
GUAYAGUAC R	118	28.7	21.0	21.0	28.4	19	31.7	16.7	31.7	233.3	75	233.3	75	252	31.7	0	0	0	0	0	0	0	0	0	0
JOHNSTON	2	27.1	21.0	21.0	27.1	19	31.7	16.7	31.7	77.3	40	77.3	40	222	31.7	0	0	0	0	0	0	0	0	0	0
KOROR R	2	30.2	24.4	24.4	27.1	20	33.9	20.6	33.9	350.0	189	350.0	189	352	33.9	0	0	0	0	0	0	0	0	0	0
KWAJALEIN	2	29.3	24.4	24.4	27.7	19	36.4	20.6	36.4	259.3	60	259.3	60	346	36.4	0	0	0	0	0	0	0	0	0	0
MAJALIN	2	29.3	24.4	24.4	27.7	19	36.4	20.6	36.4	177.3	79	177.3	79	434	36.4	0	0	0	0	0	0	0	0	0	0
PAGO PAGO	2	30.6	24.4	24.4	28.8	20	35.3	16.7	35.3	325.5	80	325.5	80	261	35.3	0	0	0	0	0	0	0	0	0	0
PONAPE R	37	29.6	24.4	24.4	27.3	20	34.4	20.6	34.4	291.4	49	291.4	49	379	34.4	0	0	0	0	0	0	0	0	0	0
TRUK MOEN ISLAND	2	29.6	24.4	24.4	27.3	20	34.4	20.6	34.4	163.7	88	163.7	88	21	34.4	0	0	0	0	0	0	0	0	0	0
WAKE	2	27.5	22.5	22.5	26.6	20	31.7	17.8	31.7	95.0	44	95.0	44	265	31.7	0	0	0	0	0	0	0	0	0	0
YAP R	12	29.6	24.4	24.4	27.3	20	34.4	20.6	34.4	308.7	88	308.7	88	25	34.4	0	0	0	0	0	0	0	0	0	0
PENNSYLVANIA																									
ALBANY	218	31.1	19.7	19.7	10.6	87	43.9	11.1	43.9	1079	307	111	69	876	43.9	0	0	0	0	0	0	0	0	0	0
ALBANY	218	31.1	19.7	19.7	10.6	87	43.9	11.1	43.9	1079	307	111	69	876	43.9	0	0	0	0	0	0	0	0	0	0
ERIE	223	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	970	251	115	139	876	43.9	0	0	0	0	0	0	0	0	0	0
HARRISBURG	103	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	926	47	139	229	876	43.9	0	0	0	0	0	0	0	0	0	0
PHILADELPHIA	34	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	1034	246	104	214	876	43.9	0	0	0	0	0	0	0	0	0	0
PITTSBURGH CRT. AP	34	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	926	208	104	214	876	43.9	0	0	0	0	0	0	0	0	0	0
PITTSBURGH U.	34	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	926	208	104	214	876	43.9	0	0	0	0	0	0	0	0	0	0
READING U. 1968	81	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	926	208	104	214	876	43.9	0	0	0	0	0	0	0	0	0	0
W. SCRANTON AIDCA	283	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	926	208	104	214	876	43.9	0	0	0	0	0	0	0	0	0	0
WILLIAMSPORT	168	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	926	208	104	214	876	43.9	0	0	0	0	0	0	0	0	0	0
RHODE ISLAND																									
ALBANY	34	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	1079	307	111	69	876	43.9	0	0	0	0	0	0	0	0	0	0
PROVIDENCE	14	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	1079	307	111	69	876	43.9	0	0	0	0	0	0	0	0	0	0
SOUTH CAROLINA																									
CHARLESTON	17	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	1079	307	111	69	876	43.9	0	0	0	0	0	0	0	0	0	0
COLUMBIA	65	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	1079	307	111	69	876	43.9	0	0	0	0	0	0	0	0	0	0
GRVILLE SPRING	294	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	1079	307	111	69	876	43.9	0	0	0	0	0	0	0	0	0	0
SOUTH DAKOTA																									
AREATON	339	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	1079	307	111	69	876	43.9	0	0	0	0	0	0	0	0	0	0
HURON	339	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	1079	307	111	69	876	43.9	0	0	0	0	0	0	0	0	0	0
RAPID CITY	564	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	1079	307	111	69	876	43.9	0	0	0	0	0	0	0	0	0	0
STOCK FALLS	432	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	1079	307	111	69	876	43.9	0	0	0	0	0	0	0	0	0	0
TENNESSEE																									
ALBANY	34	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	1079	307	111	69	876	43.9	0	0	0	0	0	0	0	0	0	0
CHATTANOOGA	202	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	1079	307	111	69	876	43.9	0	0	0	0	0	0	0	0	0	0
KNOXVILLE	202	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	1079	307	111	69	876	43.9	0	0	0	0	0	0	0	0	0	0
MEMPHIS	202	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	1079	307	111	69	876	43.9	0	0	0	0	0	0	0	0	0	0
NASHVILLE	202	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	1079	307	111	69	876	43.9	0	0	0	0	0	0	0	0	0	0
SPRINGFIELD	202	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	1079	307	111	69	876	43.9	0	0	0	0	0	0	0	0	0	0
TEXAS																									
ALBANY	34	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	1079	307	111	69	876	43.9	0	0	0	0	0	0	0	0	0	0
AUSTIN	141	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	1079	307	111	69	876	43.9	0	0	0	0	0	0	0	0	0	0
BOONVILLE	202	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	1079	307	111	69	876	43.9	0	0	0	0	0	0	0	0	0	0
COOPERVILLE	202	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	1079	307	111	69	876	43.9	0	0	0	0	0	0	0	0	0	0
DALLAS	202	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	1079	307	111	69	876	43.9	0	0	0	0	0	0	0	0	0	0
EL PASO	202	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	1079	307	111	69	876	43.9	0	0	0	0	0	0	0	0	0	0
HOUSTON	202	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	1079	307	111	69	876	43.9	0	0	0	0	0	0	0	0	0	0
SAN ANTONIO	202	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	1079	307	111	69	876	43.9	0	0	0	0	0	0	0	0	0	0
SAN DIONISIO	202	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	1079	307	111	69	876	43.9	0	0	0	0	0	0	0	0	0	0
SAN JOSE	202	31.2	19.8	19.8	10.6	87	43.9	11.1	43.9	1079	307	111	69	876	43.9	0	0	0	0	0	0	0	0	0	0

NORMALS, MEANS AND EXTREMES

YEAR 1974

[illegible]

ELEVATIONS

from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

These are the elevations of the barometer (in feet and meters above mean sea level) to which station pressure values pertain in the

"Climatological Data" table in the monthly publication CLIMATOLOGICAL DATA NATIONAL SUMMARY.

GENERAL SUMMARY OF TORNADOES, 1974

Vincent Cinquemani
National Oceanic and Atmospheric Administration
Environmental Data Service
National Climatic Center

During 1974, 945 tornadoes were reported in the United States. They occurred on 184 days, killed 361 people, injured 6,915 others, and caused property losses well in excess of \$500 million. Of the 945 storms, 64 in 20 states caused deaths with Alabama suffering the most fatalities (79) and the Xenia, Ohio, tornado killing the most people (34). The unparalleled tornado outbreak of April 3-4 contributed significantly to the annual statistics as 144 twisters devastated parts of a 13-state area, killing 307 and injuring about 5,500. A breakdown of this super-outbreak, as reported in Storm Data, is as follows:

April 3-4 Tornado Outbreak

State	Number of Tornadoes	Deaths	Injuries	Tornadoes Originating in Another State
Alabama	10	77	938	
Georgia	7	16	109	1
Illinois	12	2	38	
Indiana	20	47	896	1
Kentucky	27	71	1265	3
Michigan	5	2	37	
Mississippi	1	0	1	
New York	1	0	0	
North Carolina	8	6	75 (est.)	1
Ohio	12	40	1400	1
Tennessee	38	44	715	1
Virginia	6	1	6	1
West Virginia	<u>6</u>	<u>1</u>	<u>34</u>	—
Total	153*	307	5514	9

* Includes 9 tornadoes which crossed state boundaries.

GENERAL SUMMARY OF TORNADOES

The 1974 tornado season began at 5:45 a.m. on January 11 and ended on Christmas morning. Inclusive of these two dates, the number of tornadoes placed 1974 second in all-time occurrences (1973 ranks first with 1,108). Tornado-deaths during the April 3-4 outbreak elevated the year into eleventh place in fatalities. Not since 1953, when twisters killed 515 people, have so many died as a result of these dreaded storms.

A brief review of the 1974 tornado year could have read as follows: "1974, a relatively quiet year as compared with 1973, recorded 801 tornadoes which caused 54 deaths and about 1,400 injuries." It would have, except for a 21-hour runaway convective period on April 3 and 4 when 144 tornadoes contributed directly to 307 deaths and about 5,500 injuries. This unprecedented tornado outbreak changed the above hypothetical totals to these: 945 tornadoes, 361 killed, and 6,915 injured. The following annual summary describes the more significant tornadoes of 1974, placing particular emphasis on those of April 3-4:

1974 Tornadoes

JANUARY. The tornado year got underway on January 11 at 5:45 a.m. in Dalton, Georgia, as a twister unroofed six rooms of a motel. January also experienced the first tornado-death on the 26th when a deadly storm roared through the Highway Community of Randolph County, Alabama. With the exception of one tornado each in Hawaii, Ohio, and Maryland, the balance of the month's total of 24 occurred in the deep south, as usual during this time of the year.

FEBRUARY. Again, tornadic activity was restricted mainly to the South as 23 storms occurred on 9 days causing 70 injuries but no deaths. Damages, estimated at \$1.5 million, and 55 injuries resulted when a tornado with a 50-mile-long path tore through an extensive area north of Tampa, Florida, on the 19th. Many mobile homes and houses were either destroyed or damaged in Citrus Park and Zephyrhills.

MARCH. Tornado occurrences increased slightly and, as expected, several occurred farther north in Colorado, Illinois, and Kansas. The 36 tornadoes on 12 days in 13 states produced one death and 62 injuries; but, these totals gave no clue as to the impending disaster.

APRIL. Twenty-five tornadoes were reported during the 1st and 2nd, many in states which would bear the full brunt of the super-outbreak on the 3rd. Campbellsburg, Kentucky, a small town of 500 persons, was practically wiped out as a tornado struck it on the evening of the 1st. The storm destroyed 19 homes and 23 businesses, killed a mobile home dweller, and injured 20 others. Very close to the same time, another twister smashed into the Belle Meade section of Nashville, Tennessee. It moved across the 100 Oaks Shopping Center and Harding Mall, through an apartment complex and the Nashville Airport. Total damage was estimated at \$3.6 million, mainly to businesses and aircraft.

GENERAL SUMMARY OF TORNADOES

APRIL 3-4, 1974. A brief touchdown of a funnel cloud in an open field near Lebanon, Indiana, at 9:30 a.m. was perhaps an omen of the onslaught of 144 tornadoes which would begin in a few hours. Shortly after 12 noon, a tornado struck Morris, Illinois, causing only minor damage. Within a few hours, however, waves of destructive tornadoes, all traveling from the southwest to the northeast, devastated a large area east of the Mississippi, hitting Alabama, Georgia, western North Carolina, Tennessee, Kentucky, Indiana, and Ohio, the hardest. The storms raged through the afternoon and evening and, by midnight, a total of 125 tornadoes in 11 states had caused 303 deaths and about 5,400 injuries. Eight crossed state borders, with one traveling through three states (Indiana-Kentucky-Ohio) and another crossing from Michigan to Canada. Some of the more significant April 3 tornadoes, in terms of death and destruction, were the following:

1. The Xenia, Ohio, tornado. The storm that smashed into this southwestern Ohio city of 25,000 at 3:40 p.m. led all others in deaths, injuries, and total destruction. It left about one-half of the town in ruin as it killed 34 persons, injured 1,150 others, and made many homeless as 300 homes were destroyed and 2,100 damaged. The tornado continued northeastward to Wilberforce causing extensive damage to Central State University. The area of destruction was great since the funnel remained continuously on the ground for a path length of 32 miles having an average width of 530 yards.

2. The Brandenburg, Kentucky, tornado. At 4:10 p.m., a powerful twister moved into this Meade County town from the southwest killing 31 people and destroying or damaging 300-400 homes. Before lifting in Indiana, it left 270 people injured in Meade and Breckinridge Counties.

3. The Monticello, Indiana, tornado. The tornado with the longest track of the year (121 miles) touched down just west of Otterbein at 4:50 p.m. It quickly intensified as it approached Monticello and entered the town at 5:15 p.m. The storm struck the downtown area, but due to prior warnings and the usual Wednesday afternoon closing of businesses, only two persons were killed. This incredible storm roared through parts of nine counties before ending suddenly north of Oliver Lake Airfield in LaGrange County, but not before killing 18 people and injuring 362.

4. The Guin, Alabama, tornado. This storm, described as the most powerful ever to strike in Alabama, had a 102-mile track as it traveled through Lamar, Marion, Winston, Lawrence, and Morgan Counties. Most of the dead and injured were in Guin and surrounding Marion County where 23 died and another 250 were injured. A total of 274 buildings and 50 mobile homes were destroyed in the area. Characteristic of many other tornadoes in this outbreak, the Guin tornado traversed steep mountain slopes. In the Bankhead National Forest, trees were mowed down in deep gorges as well as atop ridges and the tornado showed its awesome force as it uprooted practically every tree within a mile-wide path. So great

GENERAL SUMMARY OF TORNADOES

was the path of destruction that it appeared clearly in a space view taken by the ERTS-1 Satellite from 900 kilometers above the Earth. (See the Bulletin of the American Meteorological Society, January 1975).

The 144-tornado super outbreak slackened during the morning of April 4 as 19 storms in Tennessee, North Carolina, Virginia, and West Virginia caused 4 deaths and about 100 injuries. West Virginia's six tornadoes on the 4th surpassed its greatest annual total (5) on record. A detailed report of the April 3-4, 1974, tornado outbreak is being prepared by T. T. Fujita of the University of Chicago.

A small sample of the drama that must have prevailed during all the tornado occurrences is the following eyewitness account of the Oldham County tornado appended to the April weather report by the LaGrange, Kentucky, National Weather Service cooperative observer:

"We had been pre-warned, in good time, of the impending tornadoes in and around this area, thanks to our national and local Weather Offices. Just before the tornado touched down in and around the Crystal Lake area, including the weather station, I had both the good fortune, and bad, to be in the Northfield Lime Kiln area, when I observed the tornado approaching. [I had] just time enough to phone my wife at the station to warn her to seek safety and then jump into a deep, water-filled drainage ditch filled with wild blueberry briars. I credit these hardy briars (and lots of help from the good Lord) for clinging to my clothes and body, from being sucked into this whole disaster. I made it with only minor scratches and my hair matted with bits of shrubs and twigs. The tornado raged through Brownsboro, Kentucky, doing extensive damage to homes and trailers. The tornado lifted and then touched down on Highway 53 and Crystal Lake at 5:10 p.m. Extensive structural damage was done to the new Crestwood Bank Building and a home next to the bank was split in half. The tail bounced back up, then touched down in the center of the lake, lifting a huge wall of water before hitting four more houses in Crystal Lake. One house had about one-third of its roof torn off plus one corner of brick wall torn off. Two other houses had roof and window damage. At the weather station, part of one corner of my roof was torn back, some window damage, and my boat was blown against the weather station. Out of operation for three days."

April totaled 269 tornadoes (a new record) on 22 days which resulted in 313 fatalities and 5,755 injuries.

MAY. After the record-breaking tornadoes of April, the storm data for the remainder of 1974 seemed uneventful, in comparison. May - the month with the greatest average number of tornadoes (153) - took third place after April and June, logging 144 twisters. They were distributed over 28 days and 27 states and caused 10 deaths and 68 injuries. Florida tallied 25 - a new record for May. Six of the deaths occurred in South Carolina, on the Waccamaw River, as a small tornado struck a boat, killing six of the seven occupants.

GENERAL SUMMARY OF TORNADOES

JUNE. The tornado rate continued high with 192 storms setting down on 28 states on 26 days of the month. They accounted for 31 deaths and 753 injuries. Illinois reported a record 43 tornadoes, but the lack of fatalities and only 7 injuries point to the relatively weak intensity of the storms. Oklahoma was not so fortunate as 22 tornadoes killed 16 and injured 294 others on June 8. At 3.55 p.m., a funnel cloud touched down 3 miles southwest of Drumright, damaging a school. It smashed through the northwestern portion of the town killing 12 people - six in a nursing home. The tornado continued for a total of 55 miles, leaving 14 dead and 150 injured.

JULY - DECEMBER. The sharp decline in tornadic activity during the second half of the year was quite evident from the following totals: 257 tornadoes, 180 injuries, and only 4 deaths. All fatalities and 113 of the injuries occurred in October. Texas suffered its only tornado-death of the year in Baytown (its 1956-1974 average number of fatalities is eight) when a twister struck at one end of a vehicular tunnel, creating a vacuum in the tunnel, which caused a gasoline truck to overturn and several cars to lose control. Two other deaths occurred near Maxie, Louisiana, and the fourth in the village of Canoncito, New Mexico.

A tornado with a 13-mile-long skipping path touched down near Hayesville, North Carolina, on Christmas morning. It destroyed one house and damaged three others and brought the 1974 tornado year to an end.

Additional information is presented in the tables and charts that follow. Several corrections to tornado occurrences and one to tornado deaths have been made through the continuing efforts of the National Severe Storms Forecast Center and the National Climatic Center. Changes were applied to 1950-1973 data only.

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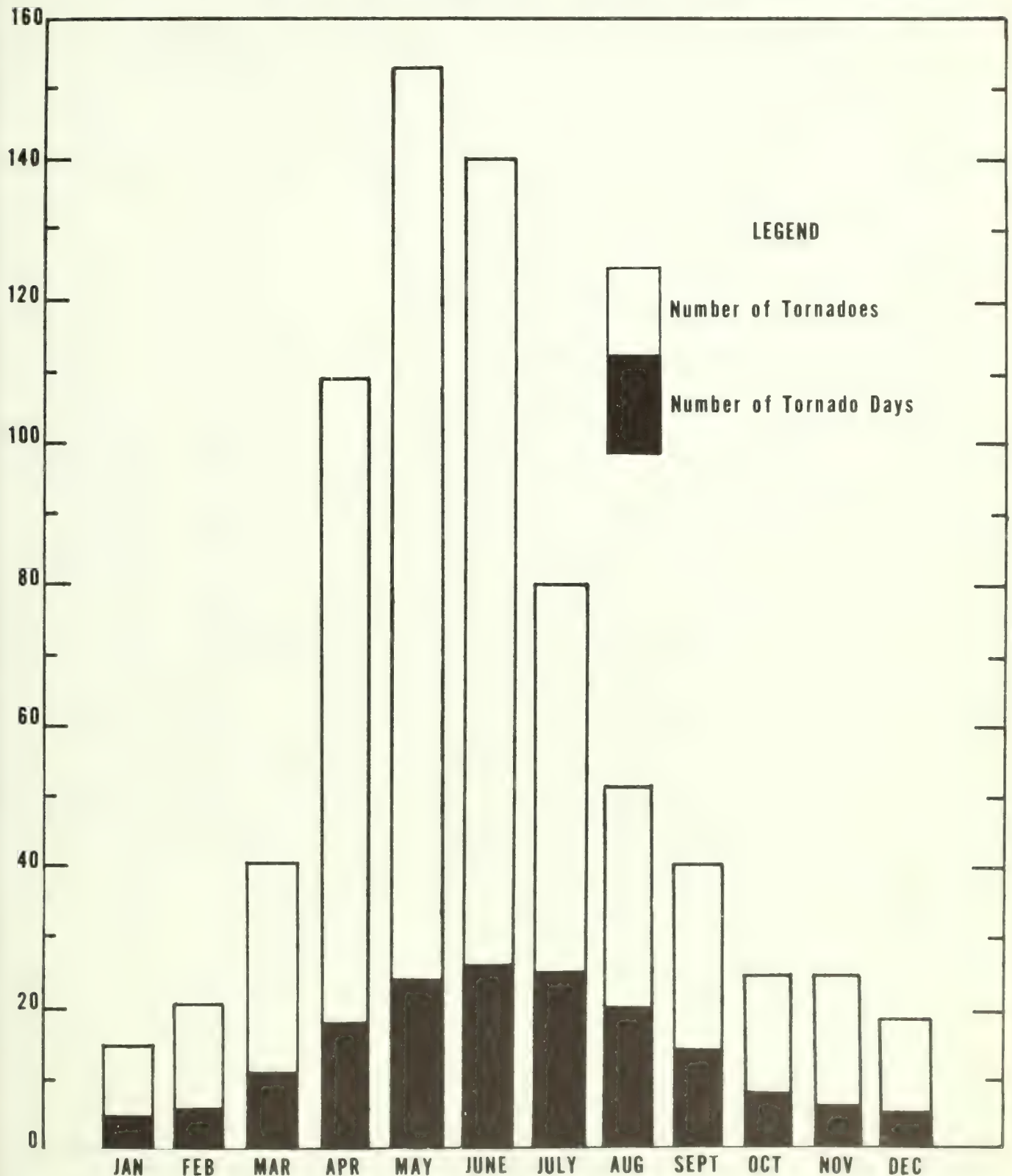
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NUMBER OF TORNADOES TORNADO DAYS, AND DEATHS BY MONTHS, 1953-74

YEAR	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER		NUMBER	DAYS	DEATHS		
	NUMBER	DAYS	NUMBER	DAYS	NUMBER	DAYS	NUMBER	DAYS	NUMBER	DAYS	NUMBER	DAYS	NUMBER	DAYS	NUMBER	DAYS	NUMBER	DAYS	NUMBER	DAYS	NUMBER	DAYS	NUMBER	DAYS					
1953	14	0	16	3	40	10	14	147	12	94	11	111	110	31	19	4	14	5	2	0	1	0	0	420	1	420	1	420	
1954	1	1	1	1	23	13	15	112	10	130	12	103	154	49	11	3	10	15	1	1	1	1	0	589	15	589	15	589	
1955	3	0	4	3	43	15	99	16	147	10	108	154	49	11	5	10	23	15	1	1	1	1	0	593	15	593	15	593	
1956	1	0	1	1	31	7	65	15	79	14	4	65	21	26	1	42	16	0	0	0	0	0	0	903	155	903	155	903	
1957	17	13	3	17	34	10	115	11	227	26	47	137	15	15	0	20	17	10	2	59	11	0	0	587	18	587	18	587	
1958	11	7	0	10	1	10	76	10	57	14	4	147	15	15	1	40	14	0	1	45	6	0	0	583	194	583	194	583	
1959	16	3	5	21	43	11	30	12	126	28	8	73	24	0	36	18	1	14	1	0	0	0	0	58	194	58	194	58	194
1960	9	4	0	10	28	10	70	20	201	26	34	124	43	22	1	23	13	0	1	10	0	0	0	614	174	614	174	614	
1961	1	1	0	0	124	17	74	15	137	25	43	107	77	27	0	47	16	15	5	0	0	0	0	697	184	697	184	697	
1962	12	3	1	2	37	12	41	11	200	3	2	171	72	26	0	51	11	0	11	0	0	0	0	697	184	697	184	697	
1963	15	1	3	0	50	12	42	11	71	31	1	91	26	0	0	13	13	0	13	0	0	0	0	704	184	704	184	704	
1964	15	10	3	0	36	11	157	23	115	30	16	135	63	23	0	74	13	0	22	4	0	0	0	704	184	704	184	704	
1965	21	11	0	4	0	9	127	20	215	35	17	147	86	28	0	91	21	0	10	4	1	0	0	904	184	904	184	904	
1966	1	0	28	0	0	7	20	20	17	26	0	147	86	28	0	91	21	0	10	4	0	0	0	904	184	904	184	904	
1967	1	0	31	0	0	17	7	74	15	137	25	43	107	77	0	47	16	15	5	0	0	0	0	697	184	697	184	697	
1968	3	7	0	3	42	14	145	13	71	25	3	171	72	26	0	51	11	0	11	0	0	0	0	697	184	697	184	697	
1969	3	0	7	3	0	28	6	102	15	40	145	26	72	11	2	66	14	0	44	12	0	0	0	650	171	650	171	650	
1970	3	1	5	5	0	2	1	64	15	2	145	25	137	27	16	69	14	0	10	0	0	0	1	608	155	608	155	608	
1970	9	5	0	3	0	25	12	117	10	29	66	134	81	27	3	55	11	0	1	4	0	0	0	653	171	653	171	653	
1971	15	7	1	13	40	13	75	11	163	24	7	195	100	27	3	58	13	0	10	0	0	0	0	585	156	585	156	585	
1972	33	10	5	14	69	17	96	20	16	140	27	114	25	30	0	21	15	0	17	0	0	0	2	888	194	888	194	888	
1973	33	7	1	4	80	16	150	22	10	250	16	35	254	26	3	23	14	0	34	11	0	0	0	741	194	741	194	741	
1974	24	8	2	9	36	12	1	269	22	313	144	26	10	59	0	107	26	0	25	11	0	0	0	3	1108	206	1108	206	1108
1974	24	8	2	9	36	12	1	269	22	313	144	26	10	59	0	107	26	0	25	11	0	0	0	0	945	184	945	184	945
1956-74:																													
TOTAL	284	87	76	403	109	173	333	264	933	455	350	2660	1519	480	1	86	276	43	161	50	473	121	48	37	13686	3198	203	3198	203
MEAN	15	5	4	21	6	9	41	11	7	109	18	140	80	12	1	5	24	2	8	3	25	6	3	2	720	166	107	720	107

AVERAGE NUMBER OF TORNADOES AND TORNADO DAYS EACH MONTH IN THE UNITED STATES

(Based on 13,686 Tornadoes that Occurred from 1956 - 1974)



NUMBER OF TORNADES, TORNADO DAYS, DEATHS, AND RESULTING LOSSES BY YEARS, 1916-74

YEAR	Number Tornadoes	Tornado Days	Total Deaths	Most Deaths in Single Tornado	Total Property Losses †	PROPERTY LOSS FREQUENCY*		
						Category 5	Category 6	Category 7 and Over
1916	90	36	150	30	6	7	1	0
1917	121	38	509	101	7	21	9	0
1918	81	45	135	36	7	20	5	0
1919	64	35	206	59	7	10	2	0
1920	87	50	498	87	7	14	10	0
1921	105	55	202	61	7	22	3	0
1922	108	64	135	16	7	27	5	0
1923	102	59	109	23	6	21	1	0
1924	130	57	376	85	7	26	11	1
1925	119	65	794	689	7	34	2	1
1926	111	57	144	23	6	28	0	0
1927	163	62	540	92	7	42	9	1
1928	203	79	92	14	7	40	7	0
1929	197	74	274	40	7	48	4	0
1930	192	72	179	41	7	38	6	0
1931	94	57	36	6	6	14	1	0
1932	151	67	394	37	7	23	1	1
1933	258	96	362	34	7	46	9	0
1934	147	77	47	6	6	10	3	0
1935	180	77	70	11	6	29	0	0
1936	151	71	552	216	7	17	5	1
1937	147	75	29	5	6	24	0	0
1938	213	76	183	32	7	29	6	0
1939	152	75	87	27	7	21	3	0
1940	124	62	65	18	7	13	2	0
1941	118	57	53	25	6	24	1	0
1942	167	66	384	65	7	42	10	0
1943	152	61	58	5	7	28	8	0
1944	169	68	275	100	7	50	9	0
1945	121	66	210	69	7	21	10	1
1946	106	65	78	15	7	29	7	0
1947	165	78	313	169	7	46	7	1
1948	183	68	140	33	7	62	11	2
1949	249	80	212	58	7	54	13	0
1950	199	88	70	18	7	47	9	0
1951	262	113	34	6	7	35	11	2
1952	241	98	230	57	7	53	19	0
1953	420	136	515	116	8	63	18	7
1954	549	159	36	6	7	63	8	1
1955	593	153	126	80	7	74	13	1
1956	503	155	83	25	7	83	24	1
1957	857	154	191	44	8	129	26	3
1958	563	166	66	19	7	70	8	1
1959	604	156	58	21	7	70	4	1
1960	616	172	47	16	7	65	11	1
1961	697	169	51	16	7	103	21	1
1962	657	152	28	17	7	51	10	0
1963	464	141	31	5	7	77	15	1
1964	704	156	73	22	7	113	17	5
1965	904	181	296	44	8	126	30	11
1966	585	150	98	58	8	79	13	4
1967	929	173	114	33	8	125	33	8
1968	660	171	131	34	8	82	26	6
1969	608	155	66	32	8	98	16	3
1970	653	171	72	26	8	97	24	6
1971	888	192	156	58	8	71	30	5
1972	741	194	27	6	8	100	28	1
1973	1108	206	87	7	9	219	67	9
1974	945	184	361	34	9	166	82	25
Means: 1956-74	720	168	107	---	---	101	26	5

NOTE: -- The above estimated losses are based on values at time of occurrence.

† Storm damages in categories:

- | | |
|--------------------------------|----------------------------------|
| 5. \$50,000 to \$500,000 | 8. \$50 million to \$500 million |
| 6. \$500,000 to \$5 million | 9. \$500 million and over. |
| 7. \$5 million to \$50 million | |

* Number of times property losses reported in Storm Data in Categories 5, 6, 7 and over.

NUMBER OF TORNADES, TORNADO DAYS, AND DEATHS BY STATES, 1956-74

STATE	TORNADES							DAYS		DEATHS		
	TOTAL	AVER AGE	GREAT EST	YEAR	LEAST	YEAR	Per 10,000 Sq. Mi.	TOTAL	AVER AGE	TOTAL	AVER AGE	Per 10,000 Sq. Mi.
Alabama	368	19	45	1973+	5	1956	3.75	210	11	156	8	30
Alaska	1	0	1	1959	0	1974+	.00	1	0	0	0	0
Arizona	83	4	17	1972	0	1965	.38	68	4	3	0	0
Arkansas	333	18	50	1973	2	1969+	3.30	172	9	97	5	18
California	52	3	10	1958	0	1968+	.17	42	2	0	0	0
Colorado	244	13	32	1965	1	1959	1.23	178	9	3	0	0
Connecticut	33	2	8	1973	0	1969+	3.47	31	2	1	0	2
Delaware	12	1	4	1967	0	1974+	3.07	11	1	0	0	0
District of Columbia	0	0	0	-	0	-	.00	0	0	0	0	0
Florida	670	35	77	1972	12	1965	6.02	388	20	41	2	7
Georgia	416	22	46	1971+	7	1960	3.72	252	13	34	2	6
Hawaii	12	1	4	1971	0	1972+	.98	10	1	0	0	0
Idaho	29	2	5	1967	0	1974+	.18	20	1	0	0	0
Illinois	569	30	107	1974	7	1964	5.31	253	13	113	6	20
Indiana	440	23	48	1973	6	1972	6.38	199	10	190	10	52
Iowa	512	27	54	1964	7	1956	4.79	241	13	37	2	7
Kansas	896	47	94	1964	17	1969	5.73	397	21	62	3	8
Kentucky	178	9	34	1974	1	1960	2.32	96	5	97	5	24
Louisiana	356	19	55	1974	5	1958+	3.86	231	12	62	3	13
Maine	60	3	11	1971	0	1964	.95	50	3	0	0	0
Maryland	38	2	5	1967	0	1970+	1.89	34	2	1	0	1
Massachusetts	91	5	12	1958	0	1959	5.80	62	3	7	0	8
Michigan	254	13	39	1974	2	1959	2.29	145	8	94	5	16
Minnesota	327	17	34	1968	5	1972	2.05	189	10	55	3	7
Mississippi	431	23	50	1973	5	1964	4.75	224	12	254	13	53
Missouri	613	32	79	1973	11	1972	4.63	289	15	108	6	15
Montana	61	3	10	1962	0	1974+	.22	48	3	0	0	0
Nebraska	622	33	54	1958	10	1966	4.24	302	16	14	1	2
Nevada	12	1	4	1964	0	1972+	.06	10	1	0	0	0
New Hampshire	50	3	9	1963	0	1971+	2.83	44	2	0	0	0
New Jersey	34	2	8	1973	0	1972+	2.28	27	1	0	0	0
New Mexico	191	10	18	1972	2	1973+	.83	141	7	3	0	0
New York	66	3	7	1969	1	1966+	.70	58	3	2	0	0
North Carolina	184	10	38	1973	2	1970	1.84	110	6	17	1	3
North Dakota	262	14	41	1965	2	1961	1.95	159	8	11	1	2
Ohio	279	15	43	1973	3	1966	3.56	150	8	128	7	31
Oklahoma	1081	57	107	1957	30	1972+	8.14	441	23	130	7	19
Oregon	19	1	3	1967+	0	1964+	.10	15	1	0	0	0
Pacific	0	0	0	-	0	-	.00	0	0	0	0	0
Pennsylvania	91	5	12	1973+	0	1959	1.06	73	4	3	0	1
Puerto Rico	7	0	2	1969	0	1973+	1.08	6	0	0	0	0
Rhode Island	1	0	1	1972	0	1974+	.43	1	0	0	0	0
South Carolina	183	10	23	1973	1	1970	3.10	120	6	21	1	7
South Dakota	466	25	64	1965	1	1958	3.19	240	13	7	0	1
Tennessee	214	11	44	1974	1	1962	2.67	108	6	65	3	15
Texas	2267	119	232	1967	56	1956	4.46	918	48	151	8	6
Utah	27	1	5	1970+	0	1974+	.17	21	1	0	0	0
Vermont	21	1	5	1962	0	1974+	1.15	17	1	0	0	0
Virginia	85	4	12	1959	1	1963+	1.10	62	3	14	1	3
Virgin Islands	0	0	0	-	0	-	.00	0	0	0	0	0
Washington	23	1	4	1972	0	1974+	.18	17	1	6	0	1
West Virginia	36	2	6	1974	0	1960+	.78	28	1	1	0	0
Wisconsin	371	20	33	1964	6	1956	3.48	205	11	47	2	8
Wyoming	116	6	17	1962	0	1970	.62	94	5	1	0	0
TOTAL: United States	*13686	720	1108	1973	464	1963	1.99	†3198	168	2036	107	6

+ Also in earlier year(s).

* Corrected for boundary-crossing tornadoes.

† Tornado Days for country as a whole.

Mean annual tornadoes per 10,000 square miles.

@ Number of deaths per 10,000 square miles -- 1956-74

NUMBER OF FUNNEL CLOUDS IN 1974

STATE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
Alabama		3		19	2	1	2	5	2				34
Alaska													0
Arizona			2	13	28	37	1	6	2				3
Arkansas				2			6	6	2				94
California	3	1	4							3			13
Colorado				1	7	3	2	1					14
Connecticut													0
Delaware													0
District of Columbia									5		6		0
Florida													11
Georgia	2	1	1		1								5
Hawaii	1	1			5	1	1		3	2	1		15
Idaho			1		4								5
Illinois			5	22	13	98	12	14	3				167
Indiana				26	22	27	2	3	2				82
Iowa				6	23	42	4	11					86
Kansas				8	16	9		25		4			62
Kentucky				1	1								2
Louisiana	1			8		10							19
Maine								1					1
Maryland													0
Massachusetts							6						6
Michigan				9	1	10	9	5	4				38
Minnesota				2	6	29	28	7		2			74
Mississippi	1	6	2	12	8	10	1	6	2		1		49
Missouri				1				4					5
Montana													0
Nebraska				6	16	4	4	2			3		35
Nevada													0
New Hampshire													0
New Jersey													0
New Mexico								2	2	4			8
New York													0
North Carolina				3									3
North Dakota					6	13	23	5					47
Ohio				7	3	6	4	1					21
Oklahoma		2	4	5	9	84		1	4				109
Oregon													0
Pacific													0
Pennsylvania						1							1
Puerto Rico													0
Rhode Island													0
South Carolina													0
South Dakota				3	4	9	11	2					29
Tennessee			1		2	1			1				5
Texas	2	1	7	17	24	28	6	52	30	23	2	3	195
Utah													0
Vermont													0
Virginia						2	1	1					4
Virgin Islands													0
Washington					2								2
West Virginia						3							3
Wisconsin				3	4	13	3	5					28
Wyoming							4	2					6
TOTAL	10	15	27	174	207	441	130	161	62	38	13	3	1281

TRACKS OF TORNADOES, 1974



HAILSTORM LOSSES FOR PAST YEARS

Year	Property (exclusive of crops) *	Crops +	Total +	Year	Property (exclusive of crops) *	Crops +	Total +
1933	-	-	7	1955	7	7	8
1934	-	-	7	1956	7	8	8
1935	-	-	7	1957	7	8	8
1936	6	7	7	1958	7	8	8
1937	6	7	7	1959	6	7	7
1938	6	7	7	1960	7	8	8
1939	5	6	6	1961	8	8	8
1940	6	7	7	1962	9	8	9
1941	6	7	7	1963	8	8	8
1942	6	7	7	1964	8	8	8
1943	6	7	7	1965	8	8	8
1944	7	7	8	1966	8	8	8
1945	6	7	7	1967	8	8	8
1946	7	7	7	1968	8	8	8
1947	6	8	8	1969	8	8	8
1948	7	8	8	1970	8	8	8
1949	7	7	7	1971	7	8	8
1950	7	7	7	1972	7	7	8
1951	7	7	8	1973	7	7	8
1952	7	7	7	1974	7	7	8
1953	7	7	7				
1954	7	8	8				

* Storm damages are placed in categories varying from 1 to 9 as follows:

1 Less than \$50	4 \$5,000 to \$50,000	7 \$5 million to \$50 million
2 \$50 to \$500	5 \$50,000 to \$500,000	8 \$50 million to \$500 million
3 \$500 to \$5,000	6 \$500,000 to \$5 million	9 \$500 million to \$5 billion.

NOTE.--The above estimated losses are based on values at time of occurrence.

WINDSTORM LOSSES PAST YEARS

(Windstorms other than tornadoes)

Year	Total loss of life	Total property loss +	Year	Total loss of life	Total property loss +
1916	65	7	1947	117	8
1917	25	6	1948	52	8
1918	79	7	1949	102	8
1919	344	7	1950	210	8
1920	42	6	1951	289	8
1921	65	7	1952	137	8
1922	133	7	1953	118	8
1923	68	7	1954	292	9
1924	78	7	1955	301	8
1925	88	7	1956	196	8
1926	357	8	1957	553	8
1927	64	7	1958	129	8
1928	1,947	8	1959	145	7
1929	46	7	1960	85	8
1930	49	7	1961	64	8
1931	17	7	1962	134	9
1932	306	7	1963	54	9
1933	156	8	1964	64	9
1934	109	7	1965	107	9
1935	461	7	1966	74	8
1936	121	7	1967	48	8
1937	43	7	1968	49	8
1938	630	8	1969	194	9
1939	60	6	1970	64	8
1940	251	7	1971	76	8
1941	43	7	1972	103	8
1942	68	7	1973	80	8
1943	61	7	1974	30	9
1944	448	8			
1945	85	7			
1946	70	7			

Total 10,246

* Storm damages are placed in categories varying from 1 to 9 as follows:

1 Less than \$50	4 \$5,000 to \$50,000	7 \$5 million to \$50 million
2 \$50 to \$500	5 \$50,000 to \$500,000	8 \$50 million to \$500 million
3 \$500 to \$5,000	6 \$500,000 to \$5 million	9 \$500 million to \$5 billion.

NOTE.--The above estimated losses are based on values at time of occurrence.

NORTH ATLANTIC TROPICAL CYCLONES, 1974

John R. Hope
National Weather Service, NOAA
National Hurricane Center
Miami, Florida

For the third time in the 1970's, seven tropical cyclones were named. Four of these were hurricanes. The averages for the past 30 years are about nine tropical cyclones and six hurricanes. Hurricane Carmen was the only tropical cyclone to strike the United States in 1974. There were three subtropical cyclones, of which two produced above normal tides and heavy rains in Florida.

The tracks of 1974 tropical and subtropical cyclones are shown in figures 1 and 2. Tables 1 and 2 are statistical summaries of the two groups of storms.

Tables 3 and 4 present tropical cyclone statistics for past years.

TROPICAL STORM ALMA, AUGUST 12-15

The initial tropical storm of the season developed unusually far south, reaching tropical storm intensity near 10°N, 52°W, on the 13th. Only one storm of record, occurring in 1933, crossed Trinidad farther south than did Alma.

After the storm center moved westward over Trinidad, it moved into northern Venezuela where its circulation was gradually destroyed by the mountainous terrain. The highest wind reported by a land station was 30 kt, with gusts to 42 kt at Piarco Airport on Trinidad, while the maximum associated with the storm during its existence was estimated at 55 kt based on reconnaissance reports. The lowest pressure was 1007 mb on the 13th. No ship reports within the circulation of Alma were received at the National Hurricane Center.

There were two fatalities as a direct result of the storm on Trinidad. On the Isle de Margarita off the Venezuelan coast, 47 persons perished when a passenger aircraft crashed as the leading edge of the rain shield associated with Alma passed over the Island.

HURRICANE BECKY, AUGUST 25-SEPTEMBER 2

Becky attained tropical storm status west of Bermuda near the longitude of 68°W, on the morning of the 28th, after having acquired a circulation several hundred miles north of Puerto Rico on the 26th. Hurricane strength was reached on the afternoon of the 28th.

Becky continued to intensify during the next 2 days as she moved slowly northeastward over the open sea. Maximum strength was observed on the 31st when reconnaissance reports indicated a minimum central pressure of 977 mb and sustained winds 100 kt. The MANCHESTER ZEAL encountered westerly winds of 35 kt as it passed just southwest of the hurricane's center, at 1200 on the 30th, and the DEIDO reported southerly winds of 35 kt east of the center, at 0000 on September 1.

On the 2d, the system lost tropical characteristics

after it had accelerated eastward and merged with a frontal zone northeast of the Azores. Never a threat to land, Becky was of concern to shipping because of its presence astride the main North Atlantic shipping lanes for several days.

HURRICANE CARMEN, AUGUST 29-SEPTEMBER 10

The central core of Carmen, the most severe hurricane since Camille of 1969, was evidently successfully avoided by ships in its path, although a number did experience its peripheral winds in the northwestern Caribbean and the Gulf of Mexico. Equally fortunate were densely populated areas near Carmen's two landfalls. First, the hurricane's center veered away from Belize City, Belize, and Chetumal, Mexico, crossing the coast in a sparsely populated area. After the weakened Carmen crossed the Yucatan Peninsula she regained strength as she moved northward across the Gulf of Mexico. However, the hurricane turned toward the northwest as it reached the Louisiana coast south of New Orleans, sparing that city from considerable damage.

The forerunner of Carmen was an easterly wave, which moved off the African coast on the 23d, and became a depression centered about 180 mi east of Guadeloupe on the 29th. Intensifying gradually as it moved across the Leeward Islands into the eastern Caribbean, the depression deposited up to 5 in of rain in the Virgin and Leeward Islands, and over 5 in on some sections of Puerto Rico.

Carmen acquired tropical storm strength south of the Mona Passage on August 30, as it moved westward about 80 mi south of Puerto Rico and Hispaniola, and it became a hurricane the following morning just south of Jamaica. The center passed a short distance north of Isle de Cisne (Swan Island) on September 1, where gales blew for 4 hours; highest sustained winds reached 50 kt with gusts to 65 kt. As the hurricane center approached the Yucatan Peninsula on the 2d, with sustained winds of 130 kt and a minimum pressure of 928 mb, its course shifted toward the northwest, sparing Belize City and Corojal, Belize. Passing just north of Chetumal, Mexico, Carmen raked that city with 118-kt winds; minimum pressure there dropped to 956 mb. Although close to the eye of the hurricane, Chetumal was on its weaker side.

After moving inland over the Yucatan Peninsula, Carmen weakened and it was not until the 5th that she regained hurricane strength on a northward path across the Gulf of Mexico. Reconnaissance reports indicated that maximum sustained winds of 130 kt blew around a central pressure of 937 mb over the northern Gulf of Mexico. However, some weakening occurred just before landfall as cool air entered the system. Rapid weakening followed landfall on the Louisiana coast. The highest sustained wind measured over Louisiana was 75 kt. Rainfall amounts over land were generally 6 in or less. Reported storm tides ranged up to 6 ft

NORTH ATLANTIC TROPICAL CYCLONES

along the Louisiana coast.

The first ship to report gale-force winds associated with Carmen was the CHERRY VALLEY as it passed just east of the developing storm's center on the morning of August 30. On the following day the BREUGHEL and the MARIMUNDA encountered 35-kt winds as they came within Carmen's circulation just as she reached hurricane strength. Only one ship (unidentified) reported gales on September 2, as the hurricane acquired its maximum strength before its first landfall--an indication that ships in its path gave wide berth to this severe hurricane.

Damage caused by hurricane Carmen in Puerto Rico was estimated in excess of \$2 million, mainly in flash floods and in a tornado associated with the storm. In Louisiana damage was estimated at \$90 million, primarily to the sugar cane crop, but some damage was sustained by offshore oil installations. Damage in Belize is believed to have been minor. There were no estimates of damage available from the Yucatan Peninsula of Mexico. The only fatality that was attributable directly to Carmen was an electrocution by fallen wires in Louisiana.

TROPICAL STORM DOLLY, SEPTEMBER 2-5

The cloud system that was to evolve into tropical storm Dolly was first evident on satellite pictures when it was located 700 mi east-southeast of Bermuda on August 30. Drifting northwestward for the next few days, the system became better organized and the development of a depression was confirmed on September 2 when the NEW ORLEANS reported southwesterly winds south of the developing center. On the following day the storm was named when a reconnaissance flight reported 45-kt winds and a surface pressure of 1005 mb. Southerly winds of 40 kt were reported by the PHOENIX east of the storm center on the 4th, and the RAFELLO experienced northwesterly winds of 45 kt the next day. Following tropical storm development, Dolly recurved to the northeast and lost its tropical structure when it merged with a cold front on the 5th. However, the remnants of Dolly later produced sustained northerly winds of 33 kt with gusts to 54 kt on Sable Island.

TROPICAL STORM ELAINE, SEPTEMBER 4-13

The convective cloud pattern which developed into Elaine was traced by satellite pictures from the African coast on August 30, to 600 mi east of the Leeward Islands on September 4, where a closed circulation was detected by reconnaissance aircraft. The storm was named during the late afternoon of the 9th, while centered 225 mi east - southeast of Cape Hatteras. Thereafter, Elaine moved northeastward, finally losing tropical characteristics as it neared a cold front 350 mi southeast of Cape Race, Newfoundland, on the 13th. No land areas were threatened by Elaine. Surface winds of 35 kt within the circulation of Elaine were reported, from the 8th through the 10th, by the RIO ORINOCO, the SAN MARCIAL, and the EXPORT AGENT. The lowest pressure measured in Elaine was 1001 mb on the 10th. Highest sustained winds were estimated at

60 kt. Some higher winds reported by reconnaissance aircraft are believed to have been transitory and not representative of the strength of the system.

HURRICANE FIFI, SEPTEMBER 14-22

Hurricane Fifi will be remembered chiefly because of the appalling loss of life in Honduras caused by inland flooding of rivers and streams. The influx of moist air from the Caribbean and the Pacific into the hurricane as it skirted the Honduran coast produced torrential rains up to 20 in or more in the mountains. In addition to drownings, many perished in mud slides as tilled slopes gave way and the avalanches buried all in their paths.

The precursor of Fifi moved off the African coast as an organized convective mass on the 8th. Moving steadily across the tropical Atlantic, it became a well-organized tropical depression on the 15th, south of Haiti, and a tropical storm on the 16th just south of Jamaica. Rapid strengthening continued, and Fifi became a hurricane 250 mi east of Isle de Cisne (Swan Island) on the 17th. The next day the hurricane acquired its maximum sustained winds of 95 kt. The lowest pressure of 971 mb was observed on the morning of September 19; however, slight weakening took place prior to landfall on the coast of southern Belize late that afternoon. Rapid weakening to storm and then to depression strength followed landfall. After crossing Belize and southern Mexico the system regained storm strength in the Pacific where it was renamed Orlene. Further strengthening to a hurricane occurred before making its final landfall on the west coast of Mexico.

Although Honduras received the brunt of Fifi's devastation, there were heavy rains in other areas. More than 8 in fell in 2 days over southern Jamaica. Heavy rain associated with the hurricane also fell over El Salvador, Guatemala, and southern Belize. Among the highest winds reported at land stations were 115 kt on the Island of Guanaja off the north coast of Honduras, and 85 kt at La Ceiba on the Honduran coast, 65 kt with gusts to 85 kt on Isle de Cisne (Swan Island), and 85 kt with gusts to 100 kt in southern Belize. Tides of 8 to 12 ft above normal were reported along the north coast of Honduras from Puerto Castilla westward to La Ceiba and Tela, and 10 to 12 ft along the coast of southern Belize.

HURRICANE GERTRUDE, SEPTEMBER 28-OCTOBER 3

The seventh named storm of the season developed from an Intertropical Convergence Zone disturbance which moved off the African coast on the 22d. On the 26th satellite pictures showed increasing organization and a depression formed by early morning of the 28th. Reconnaissance flights reported hurricane-force winds that afternoon. However, Gertrude never developed the characteristics of a well-organized hurricane. No wall cloud ever formed. The lowest pressure was 999 mb on the 28th. It was concluded that the hurricane-force winds observed were during bursts of short-period accelerations.

NORTH ATLANTIC TROPICAL CYCLONES

The HOWARD W. BELL reported 35-kt winds northeast of the storm's center at 0300 on the 29th. The PALMA DEL MAR encountered 40-kt winds, also northeast of the center, the following day. Weakening began on the 30th as satellite pictures showed the low-level circulation center separating from the main convective cloud mass. The system was downgraded to a tropical depression on October 2, just prior to reaching the Windward Islands. Its circulation disappeared over the southeast Caribbean on the following day. Locally heavy showers, well east of the remnants of Gertrude, continued over the Windward Islands through the 4th.

SUBTROPICAL CYCLONE NO. 1, JUNE 25-27

The development of the subtropical storm in the eastern Gulf of Mexico followed, by several days, the formation of the tropical depression off the Mexican coast near Vera Cruz on June 22. By the evening of the 24th, the convective system associated with the tropical depression had weakened while convective cloudiness had increased and a new low center had formed in the eastern Gulf of Mexico. The new system moved northeastward at about 35 kt during the night of June 24-25, and crossed the Florida Peninsula on the morning of the 25th. Sustained winds of 30 to 40 kt, with gusts of 45 to 55 kt, were reported in the Fort Myers-Naples area as the system approached. Tides 2 to 4 ft above normal occurred from Everglades City to the Tampa Bay area. At midday on the 25th, after the storm moved over the Atlantic, east of Florida, reconnaissance aircraft and ships found a band of 45- to 60-kt winds about 150 mi wide, east of the storm center. As it moved northeastward during the 25th, the system weakened as it became frontal in character, and became difficult to identify by late evening.

Total rainfall from the storm and the tropical depression which crossed the coast 2 days later produced 20 in of rain in the Tampa Bay area and 10 in or more over much of West Central Florida. There were three deaths by drowning in Florida. Damage caused by tidal and heavy rainfall flooding has been estimated at \$10 million in western Florida.

SUBTROPICAL CYCLONE NO. 2, JULY 16-19

Satellite pictures on the 15th suggested that a weak circulation was developing northeast of the Bahamas in an area of convective cloudiness which had been associated with a quasi-stationary front. The circulation became increasingly better organized as it moved northeastward through the 18th; however, the area covered by the circulation remained small throughout this time and there was no evidence from ship reports that supported satellite-picture indications of

a significant weather disturbance until the EXPORT ADVENTURER encountered 47-kt winds and a pressure of 1006 mb at 2100 on the 18th. The ship's barogram and hourly weather reports between 2000 on the 18th and 0400 on the 19th were later made available to the National Hurricane Center. These data show a closed circulation, and that the ship's barometer fell 18 mb in 6 hr. The low was absorbed into the circulation of a large extratropical low-pressure system off Newfoundland by the 20th.

SUBTROPICAL CYCLONE NO. 3, OCTOBER 3-8

There were indications of a low center forming over extreme eastern Cuba during the afternoon of the 3d. A cold front that had been moving southeastward across eastern Cuba became quasi-stationary that afternoon. An extensive area of cloudiness and rain persisted behind the front. A large high-pressure cell was centered over the middle Atlantic states, and the strong pressure gradient between the high center and the front was already producing northeasterly winds up to 30 kt over the eastern Gulf of Mexico, the Florida Straits, and over the Bahamas and adjacent waters.

The low was slow to organize during the next 2 days as it drifted northward, while the strong pressure gradient to the north and winds of near gale force persisted. By the afternoon of the 5th, as the low center moved into the central Bahamas, a number of ships reported winds in excess of gale force, including the TEXAS SUN, SOCONY VACUUM, and FORT CREVECOEUR. Winds of gale force and higher were reported also by land stations in the Bahamas during this time. As the storm moved slowly northward just off the Florida coast, ships continued to report winds in excess of 40 kt to the north of the center. At 1800 on the 6th, the ASLAUG and NEDER EEMS each reported 40-kt winds as did the NEDER EEMS and SOCONY VACUUM at 0000 on the 7th. Although the storm began to weaken as it moved northeastward away from the Florida coast during the afternoon of the 7th, the MOBIL AERO reported 40-kt winds at 1800, as did the DELAWARE GETTY at 0000 on the 8th. Additionally, the COLUMBUS AUSTRALIA reported 40-kt winds north of the front as the storm merged with a cold front 350 mi east of Cape Hatteras on the afternoon of the 8th.

The main effects of the storm were tidal flooding and beach erosion along the Florida east coast caused by the strong and persistent northeast winds, and some local flooding as a result of heavy rainfall. Tides ranged up to 3 ft above normal along portions of the Florida east coast. Rainfall amounts over a 3-day period included 10 in at Cocoa, 11.5 in at Deerfield Beach, and 14 in at Boca Raton.

Table 1. - Summary of North Atlantic Tropical Cyclone Statistics, 1974

Storm Name	Intensity	Date	Maximum Sustained Winds (kt)	Lowest Pressure (mb)	U.S. Damage (\$ Millions)	Deaths
1. Alama	Tropical Storm	August 12-15	55	1007		Trinidad - 2
2. Becky	Hurricane	August 26-September 2	100	977		
3. Carmen	Hurricane	August 29-September 10	130	928	90	U. S. - 1
4. Dolly	Tropical Storm	September 2-5	45	1005		
5. Elaine	Tropical Storm	September 4-13	60	1001		
6. Fifi	Hurricane	September 14-22	95	971		* Honduras - 3000-8000
7. Gertrude	Hurricane	September 28-October 3	65	999		

* The Red Cross has confirmed 3,000 fatalities up to this time in a continuing investigation. The Honduran Government estimates 8,000

Table 2. - Summary of North Atlantic Subtropical Cyclone Statistics, 1974

No.	Date	Maximum Sustained Winds (kt)	Lowest Pressure (mb)
1	June 25-27	60	1000
2	July 16-19	50	1005
3	October 3-8	50	1005

Table 3
NORTH ATLANTIC TROPICAL CYCLONES FOR PAST YEARS

TOTAL NUMBER OF TROPICAL CYCLONES, LOSS OF LIFE AND DAMAGE								
Total Number Tropical Cyclones*			Total Number Hurricanes		Loss of Life		Damage by Categories**	
Year	All Areas	Reaching U. S. Coast	All Areas	Reaching U. S. Coast	Total All Areas	United States	Total All Areas	United States
1931	9	2	2	0		0		8
1932	11	5	6	2		0		8
1933	21	7	9	5		63		7
1934	11	5	6	3		17		6
1935	6	2	5	2		414		7
	58	21	28	12				
1936	16	7	7	3		9		6
1937	9	4	3	0		0		4
1938	8	4	3	2		600		8
1939	5	3	3	1		3		3
1940	8	3	4	2		51		6
	46	21	20	8				
1941	6	4	4	2		10		7
1942	10	3	4	2	17	8	7	7
1943	10	4	5	1	19	16	7	7
1944	11	4	7	3	1,076	64	8	8
1945	11	5	5	3	29	7	8	8
	48	20	25	11				
1946	6	4	3	1	5	0	7	7
1947	9	7	5	3	72	53	8	8
1948	9	4	6	3	24	3	7	7
1949	13	3	7	2	4	4	8	8
1950	13	4	11	3	27	19	7	7
	50	22	32	12				
1951	10	1	8	0	244	0	7	6
1952	7	2	6	1	16	3	6	6
1953	14	6	6	2	3	2	7	7
1954	11	4	8	3	720+	193	9	9
1955	12	5	9	3	1,518+	218	9	9
	54	18	37	9				
1956	8	2	4	1	76	21	8	7
1957	8	5	3	1	475	395	8	8
1958	10	1	7	0	49	2	7	7
1959	11	7	7	3	57	24	7	7
1960	7	5	4	2	185	65	8	8
	44	20	25	7				
1961	11	3	8	1	345	46	8	8
1962	5	1	3	0	4	4	6	6
1963	9	1	7	1	7,218+	11	9	7
1964	12	6	6	4	266	49	9	9
1965	6	2	4	1	76	75	9	9
	43	13	28	7				
1966	11	2	7	2	1,040	54	8	7
1967	8	2	6	1	68	18	8	8
1968	7	3	4	1	11	9	7	7
1969	13	3	10	2	364	256	9	9
1970	7	4	3	1	74	11	9	8
	46	14	30	7				
1971	12	5	5	3	44	8	8	8
1972	4	3	3	1	128	121	9	9
1973	7	1	4	0	16	5	7	7
1974	7	1	4	1	3,000+	1	8	8
Total	419	159	241	78				
Mean	9.5	3.6	5.5	1.8				
**The Environmental Data Service has for some time recognized that, without detailed expert appraisal of damage, all figures published are merely approximations. Since errors in dollar estimates vary in proportion of the total damage, storms are placed in categories varying from 1 to 9 as follows:								
1 Less than \$50								

Table 4

NORTH ATLANTIC TROPICAL CYCLONES FOR PAST YEARS

Frequency of Tropical Cyclones (Including Hurricanes) by Months and Years											Frequency of Tropical Cyclones Reaching Hurricane Intensity by Months and Years										
	Feb.	Mar.	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total		May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total	
1931			1	1	2	3	1	1		9	1931					2				2	
1932		1			3	3	3	1		11	1932				3	1	1	1		6	
1933		1	1	3	7	5	3	1		21	1933		1	1	3	3	1			9	
1934		1	1	1	2	2	3	1		11	1934		1	1	1	1	1	1		6	
1935					3	1	2			6	1935				2	1	1			5	
1936			3	2	6	4	1			16	1936		1	1	3	2				7	
1937				1	2	6				9	1937				3	3				3	
1938					3	1	3	1		8	1938				2	1				3	
1939			1		1	1	2			5	1939				1		1			3	
1940		1			3	2	2			8	1940				3	1				4	
1941						4	2			6	1941					3	1			4	
1942					3	3	3	1		10	1942				3			1		4	
1943				1	2	4	3			10	1943			1	1	2	1			5	
1944				3	2	4	2			11	1944			2	1	3	1			7	
1945			1	1	4	3	2			11	1945		1		1	1	2			5	
1946			1	1	1	1	2			6	1946				1		1			3	
1947				1	2	3	3			9	1947			1	2	1	2			5	
1948		1		1	2	3	1	1		9	1948				1	3	1	1		6	
1949					3	7	2	1		13	1949				2	1	1	1		7	
1950					4	3	6			13	1950				4	3	4			11	
1951		1			3	4	2			10	1951	1			2	3	2			8	
1952	(Feb.) 1				2	2	2			7	1952				2	2	2			6	
1953		1			3	1	4	1	1	14	1953				2	3	1			6	
1954			1	1	2	4	1	1	1	11	1954			1	2	3	1		1	8	
1955				1	4	5	2			12	1955				3	5	1			9	
1956			1	1	1	4	1			8	1956				1	1	1			4	
1957			2		1	4	1			8	1957										
1958			1		4	4	1			10	1958			1		2	2			3	
1959		1	2	2	1	3	2			11	1959		1	2	3	3	1			7	
1960			1	2	1	3				7	1960			1	1	2				4	
1961				1		6	2	2		11	1961			1		5	1	1		8	
1962					2	2	1			5	1962				1	1	1			3	
1963				1	1	5	2			9	1963			1	1	4	1			7	
1964			1	1	4	4	1	1		12	1964				2	3	1			6	
1965			1		2	2	1			6	1965				2	1	1			4	
1966			1	4	1	4		1		11	1966							1			
1967					1	1	3			5	1967		1	3	1	1				7	
1968			3		1	2	1			7	1968				1	3	2			6	
1969				1	6	2	3	1		13	1969			2	1	2	2	1		4	
1970		1		2	1	3				7	1970	1		1		1				10	
1971				1	3	6	1	1		12	1971				1	4				3	
1972			1		2	1				4	1972		1		1	1				5	
1973				1	2	2	2			7	1973				1	1	1			3	
1974					3	4					1974				2	2				4	
Totals	1	9	24	35	106	147	79	16	2	419		2	11	18	68	92	42	7	1	241	

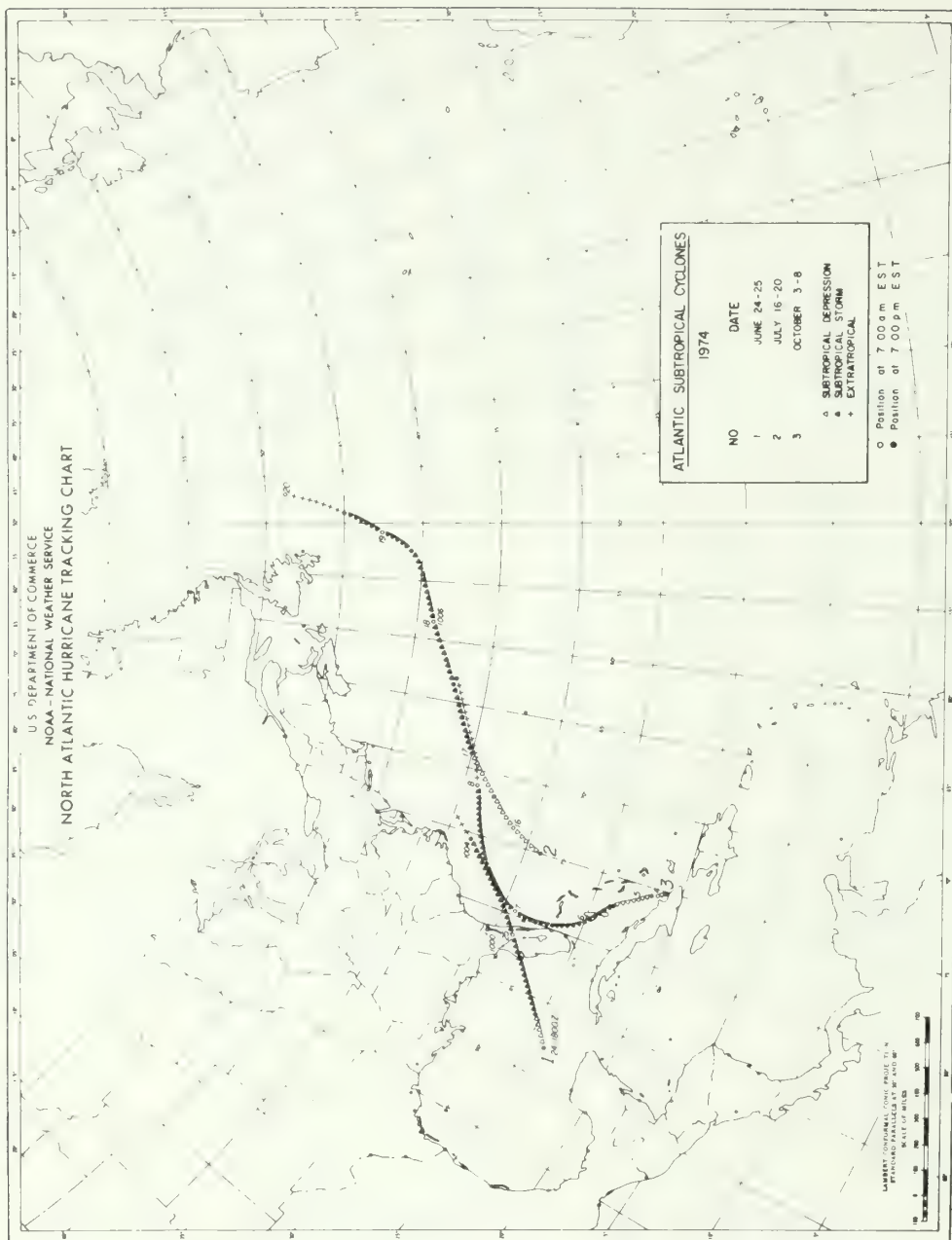


Figure 2

TROPICAL CYCLONES IN THE EASTERN NORTH PACIFIC, 1974

Robert A. Baum
Eastern Pacific Hurricane Center, NOAA
San Francisco, Calif.

The Eastern Pacific Hurricane Center had one of its busiest seasons in history during 1974. While the year's total cyclone activity was not exceptionally great, the 14-day period from August 19 to September 1 required the issuance of 34 advisories for hurricanes and 75 for tropical storms, and 30 bulletins for tropical depressions--a total of 139 issuances. So much simultaneous tropical cyclone activity may not be as uncommon as might be expected. Similar activity was detected in infrared pictures from the NIMBUS 1 satellite, the night of September 10-11, 1966.

A total of 11 hurricanes, 6 tropical storms, and 7 tropical depressions were identified during the 1974 season. To satisfy the marine, aviation, and military requirements, 210 bulletins for tropical depressions and 237 advisories for tropical storms were prepared---a total of 447 issuances. The season began May 27 with tropical storm Aletta and ended with tropical storm Rosalie on October 24.

Tropical storm and hurricane activity by month has been tabulated in Table 1 and for the 1966-74 seasons in Tables 2 and 3. This period was chosen because 1966 was the first year that satellite imagery gave nearly complete coverage of the area. Storm tracks are shown in Figures 1 and 2 for named cyclones. In additions, seven tropical depressions ranged from 8° to 22° N, and from 98° to 147° W.

The basic data employed in locating tropical cyclones has evolved over the years from ship observations to aircraft reconnaissance to satellite imagery. Satellite observations located systems with an adequate degree of accuracy in most cases, and the Dvorak technique was used for determining and forecasting tropical cyclone intensities from satellite pictures. Satellite imagery was used to locate most storms.

Looking ahead to the 1975 season, satellite pictures will probably be used to locate storm centers in all but a few cases. Reports from merchant vessels will be increasingly valuable as the only source of on-the-spot observations, because limitations on the use of aircraft may all but eliminate that valuable source of data.

Despite fuel and other restrictions during the 1974 season, the Eastern North Pacific Hurricane Center was fortunate to have more of its requests for storm reconnaissance filled by the U. S. Air Force than the National Hurricane Plan normally would have required. This was very much appreciated because it aided in the location and interpretation of storm intensity where shipping is most crowded, along the Mexican coast. Requests for aircraft reconnaissance were normally made when a storm was in a position to affect coastal and offshore waters along the Mexican coast. Three of the ten flights were into storms that had a potential to threaten the southwestern part of the United States--two into Francesea, July

17 and 18, and one into Orlene, September 23.

Known damage and casualties occurred with hurricanes Dolores and Norma. Nine people were known dead and 13 missing several days after Dolores went onshore near Acapulco, and a North Sea-type trawler, the PEREGRINE, was lost with its crew of 6. The PEREGRINE had departed Acapulco early on June 15 bound for Balboa, C.Z. Later in the season, three were killed in mud slides near Acapulco, as a result of heavy rains from Norma. The Cabrillo, a tuna boat, lost her rudder and tangled with Ione and Kirsten while under tow some 1,500 miles southwest of San Diego, during the rash of storms and hurricanes from August 22 to 25. No reports of damage have been received from merchant vessels, but some is likely to have occurred with Aletta, Dolores, Norma, and Orlene, as they traveled near the Mexican coast.

An unusual feature of the 1974 hurricane season was the incursion of a typical winter disturbance. The Gulf of Tehuantepec was laced with gale winds from October 5 through 8, while Patricia was developing to hurricane intensity 500 miles south of Manzanillo, and 2 weeks before tropical storm Rosalie ended the season 2,000 miles to the west.

Salient features of the 1974 tropical storm and hurricane activity are included in Table 4. The highest windspeed estimated by satellite may differ significantly with the highest reported windspeed, due to timing of the observations, especially where the storm intensified rapidly and moved inland, as in Orlene.

TROPICAL STORM ALETTA, MAY 27 TO 29

Tropical storm Aletta developed slowly over warm seas, 31° C, in an area south of the Gulf of Tehuantepec, beginning May 23. A weak, closed circulation was indicated by the COSMOPOLITAN, LYCAON, MARITIME ACE, and WILD AVOCET. A westerly movement of 12 kn was indicated early in the storm's life. Rainfall reported by the ERISKAY and the ZAN KERR south of Acapulco, at 1800 on the 26th, showed continued organization until tropical storm intensity was reached at 1700 on the 27th. The storm was moving west-northwestward at 12 kn with maximum winds of 35 kn near the center.

A gradual northwestward curve in the track was followed in hourly ATS-3 pictures during the day. Windspeeds increased to 40 kn, as measured by Air Force reconnaissance aircraft at 1700 on the 28th, and to 50 kn later in the day. As the storm intensified, it slowed to an average speed of 7 kn, between 0000 on the 28th and 0000 on the 29th.

About 0600 on the 29th, a sharp change in the track toward the northeast took place, along with an increase in forward speed to about 25 kn by 1200 on the 29th, a few miles south of Manzanillo, Mexico. At 1400, the first satellite picture for the day indicated

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the storm had moved inland and was dissipating.

No damage to shipping or shore installations was reported.

TROPICAL STORM BLANCA, JUNE 4 TO 8

Northwest winds of 30 kn by the CHIEH HSING, 420 miles south-southwest of Manzanillo, Mexico, at 1800 June 4, indicated a tropical disturbance was forming near 11.5° N, 106° W. Successive satellite pictures showed a westerly movement of 12 to 15 kn, with little change in intensity during the first 24 hours. During the following 24 hours, the disturbance slowed to an average of 7.5 kn and increased to tropical storm intensity near 13° N, 113° W, at 1800 on the 6th. Winds were estimated at 35 kn.

Blanca reached maximum intensity of 50 kn at 1800 on the 7th, after which a gradual curve northward took the storm to near 14.5° N, 116° W, at 0000 on the 8th. As Blanca moved northward over cooler waters, decay was rapid. By 1800 on the 8th, winds had decreased to 25 kn near 17° N, 117° W.

The storm traveled in an area of active shipping, but no winds of gale force or higher were reported.

HURRICANE CONNIE, JUNE 6 TO 22

A low-pressure circulation centered about 500 miles south of Zihuantaneo, Mexico, was apparent in satellite pictures beginning June 6. No vessels reported in the vicinity until 1800 on the 7th, when the BARCELONA MARU and the JOHN PENN observed easterly and westerly 15-kn winds, respectively, each about 100 miles from the center. A northwesterly direction of movement at 5 kn was indicated in successive satellite pictures on the 7th. The depression slowed as it intensified to a tropical storm, at 1800 June 8, near 12° N, 105° W. A 3- to 4-kn movement continued to near 13.5° N, 109.5° W, with windspeeds of 35 to 40 kn.

A more westerly movement began, at 0000 on the 11th, near 13.5° N, 107.5° W, and windspeeds increased to hurricane force, by 1800 on the 12th, near 14° N, 110° W. Further intensification to 110 kn was indicated, at 0000 on the 14th, near 15° N, 112° W.

Reports from the AMERICAN LEGION and HOLY, 75 miles north and south of the hurricane, respectively, indicated only 25-kn winds in their 1800 observations on the 13th, indicating the concentrated circulation in some eastern North Pacific hurricanes. At that time, the winds were 90 kn near the center.

A gradual curve in the hurricane track took the center to 16° N, 113° W, at 0000 on the 15th, with the winds weakening to 75 kn, and further to tropical storm strength, at 0000 on the 16th.

As Connie moved over cooler waters, she continued to weaken and curved eastward, forming a loop near 17° N, 112° W, on the 17th and 18th. She became a tropical

depression, from 1200 on the 17th to 0000 on the 19th, but regenerated to a tropical storm for about 24 hours, near 16.5° N, 108° W, and then curved north-westward again through the 21st. The disturbance dissipated near 21° N, 111° W, at 0000 on the 22d, but a swirl of cloud was still evident in the area through the 23d.

HURRICANE DOLORES, JUNE 14 TO 16

A tropical disturbance began developing 300 miles south of Salina Cruz, Mexico, June 13. The center of the squally area was near 12° N, 98° W. Early morning satellite pictures showed more definite development near 13° N, 97° W, at 1200 on the 14th, and a tropical depression bulletin was issued.

ATS-3 pictures showed rapid intensification during the morning of the 14th, and by 1800 it was apparent that a hurricane was forming. The TURANDOT, at 14° N, 98.2° W, reported 30-kn winds 150 miles south of the center. Winds near the center were estimated at 50 kn.

By 1930 on the 15th, it was apparent that the storm was taking a northerly track. The PRESIDENT PIERCE reported an easterly wind of 45 kn at 0000 on the 15th, the first verification that a tropical storm had developed. At 1200, the HU YUNG reported a wind of 5 kn near the center, but gave no indication of having passed through heavy weather during the previous 3 to 6 hours. The RIO CALCHAQUI, about 100 miles east of the center, reported south-southeasterly winds of 45 kn.

At 1800, the STOLT CASTLE reported 40-kn winds; the BRUNSWICK and PANDO POINT reported 50-kn winds. An 1840 Air Force reconnaissance flight into the storm found maximum winds of 62 kn at about 9,875 feet above the sea. The windspeed at near 3,000 m (9,843 ft) has been found to be nearly equal to that on the surface. The eye was reported initially at 15.8° N, 98.9° W, thus relocating the storm center 80 miles north-northeast of its earlier extrapolated position, and changing the direction of movement from north-westward to north-northwestward. The location was later corrected one degree of latitude south due to a communication error, but an onshore movement was still indicated near Acapulco within 24 hours. The storm increased to hurricane intensity by 0000 on the 16th.

The hurricane apparently went onshore, about 1300 on the 16th, 40 miles southeast of Acapulco. At 1200, the OCEAN HOPE reported an easterly wind of 55 kn, near 16.3° N, 99° W, or 60 miles southeast of Acapulco, but by 1800, all winds along the coast from 95° to 105° W were westerly.

Westerly winds of 25 to 35 kn along the coast continued through 0000 on the 17th, when hurricane advisories on Dolores were discontinued. Strong westerly winds to the west and southwest of Acapulco, and an unidentified vessel report of westerly 50-kn winds, at 15.5° N, 100.3° W, suggested that the hurricane had made a loop and moved offshore to about 40 miles

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south of Acapulco. This belief was held through 1200 on the 17th. A review of time lapse motion pictures, for the mornings of June 16 to 17, show it is likely that Dolores went onshore on the 16th, and the strong westerly winds with squalls and heavy rains reported by vessels during the night of the 16th were post-hurricane activity.

The heavy rains along the coast caused considerable flooding, washed out highways and bridges, and caused mud slides that took nine lives. News reports indicated another 13 missing several days after the storm moved onshore. The PEREGRINE, a 70-ft North Sea-type trawler with six persons on board, left Acapulco at 1000 June 15 bound for Panama and has been presumed lost.

TROPICAL STORM EILEEN, JULY 1 TO 4

An area of showers, squalls, and thunderstorms near 15° N, 110° W, about 500 miles south of the tip of lower California, began developing June 28. A gradual intensification took place as the area remained nearly stationary. By July 2, a weak tropical storm had formed near 16.1° N, 111° W, but no ships were in the vicinity to verify development. Socorro Island, about 200 miles north of the center, reported east winds at 5 kn.

A slow northward movement was indicated with the center of activity moving to near 17.8° N, 111° W, by 0000 July 3. There the storm moved over cooler water and weakened to a tropical depression. The depression continued to weaken and moved northwestward until 1800 on the 3d, then westward to near 20° N, 115° W at 1800 on the 4th. The last of the cloud formation, after the storm dissipated, was still visible in satellite pictures near 19° N, 114° W, at 2145 on the 5th.

HURRICANE FRANCESCA, JULY 14 TO 19

A telltale cluster of clouds in satellite pictures suggested the seventh tropical cyclone in the eastern North Pacific might be forming near 9° N, 91° W, early on July 12. The cloud mass was followed westward with cyclonic circulation beginning near 11° N, 98° W, about 1800 on the 13th.

A more northwesterly track began from near 11° N, 99° W on the 14th, to 15° N, 106° W by the afternoon of the 15th. Intensification to a tropical storm occurred early in the night of the 15th, the storm reaching 50 kn by 0600 on the 16th, while moving northwestward at 10 kn. This course and speed continued until hurricane intensity was reached, at 1800 on the 18th, near 23° N, 114° W.

A westward movement and weakening began as Gretchen moved into the area from the southwest and south. Francesca was absorbed by Gretchen, near 22.5° N, 119° W, at 1200 on the 19th.

HURRICANE GRETCHEN, JULY 16 TO 21

Every few years two tropical cyclones develop within

600 to 1,000 miles of each other, and an interesting phenomenon occurs. The cyclones tend to rotate around a central point somewhere between the two centers.

Francesca was a developing tropical disturbance near 11° N, 98° W, at 1800 on July 13, as thunderstorms near 11° N, 114° W began to grow in areal coverage and vertical development. They moved westward at 10 kn, then curved toward the north and northeast to near 14° N, 116° W, at 0000 on the 17th. Maximum winds were near 30 kn in this depression.

As Francesca moved northwestward, a band of strong southwesterly winds moved into the area of the depression, and the warm moist air caused gradual intensification to tropical storm Gretchen, by 1200 on the 18th. From 1800 on the 17th to 1800 on the 18th, the intensifying storm traveled 450 miles. Intensification appeared so rapid that an Air Force reconnaissance aircraft enroute to Francesca was requested to search to the southeast and east for Gretchen. After measuring Francesca, the aircraft proceeded to Gretchen at 21.5° N, 111.5° W, and found 85-kn winds 20 miles east of the center, at 1946.

Gretchen curved to the northwest, and then west to 23° N, 119° W, at 0000 on the 20th, while weakening to a tropical storm. It then jogged to the north during the night, and then again westward, dissipating near 25° N, 122° W, at 0000 on the 21st, where the cool water and drier North Pacific air that dissipated Francesca worked on Gretchen as well. Although a circulation continued in satellite pictures for several days, surface winds had apparently returned to normal late on the 20th.

TROPICAL STORM HELGA, AUGUST 9 TO 13

The Intertropical Convergence Zone was quite active near 10° N, from the coast westward, early in August. A number of tropical disturbances formed, but none developed into an organized system until August 9, near 13° N, 109° W. A review of satellite pictures gave no clue as to why this particular area developed more vigorously than the others, and observations from the thinly scattered vessels in the area were not sufficient to help.

The depression was moving on a course of 300° at 8 to 10 kn, a heading and speed it maintained during gradual intensification to tropical storm intensity, at 1800 on the 10th, near 14° N, 114° W. The same course and speed continued to near 16° N, 121° W, at 1800 on the 11th.

Gradual weakening then took place and, by 1800 on the 12th, the tropical storm became a tropical depression. The depression dissipated near 16° N, 124° W, 24 hours later.

The only vessel near Helga was the MEDER LEK, at 1800 on the 10th. She reported a west-southwesterly wind of 20 kn and a pressure of 1008.1 mb, 125 miles east-southeast of the storm. The strongest wind indicated in advisories was 40 kn, and that for only one 6-hour period.

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HURRICAN IONE, AUGUST 19 TO 28

During the morning of August 17, satellite pictures showed increased activity on the convergence zone, near 12° N, 114° W. By the end of the day, a disturbance was identified and was tracked westward at 16 kn. The westward speed of the depression slowed to about 10 kn as development took place. It reached tropical storm intensity, near 14° N, 128° W, at 1800 on the 20th.

Tropical storm Ione, with 35-kn winds, curved a little southwestward and weakened to a tropical depression again on the morning of the 22d, and then continued westward to near 12.5° N, 138.5° W, at 1800 on the 23d. Satellite pictures that morning showed that considerable intensification had taken place since the infrared pictures taken the night before, and the depression was raised to hurricane classification with 65-kn winds.

Ione continued intensifying, with 100-kn winds by 0600 on the 24th, as it curved into the Honolulu area of responsibility, near 13° N, 140° W. The hurricane was moving west-northwestward at 10 kn, with winds of 80 to 100 kn. The track slowly curved northward, and, by 1200 on the 26th, Ione was centered near 16.6° N, 144° W. She then moved a little east of north, slowing and weakening rapidly on the 27th: from a hurricane with 70-kn winds at 1200, to a tropical storm with 50-kn winds at 1800, and to a tropical depression with 30-kn winds at 0000 on the 28th.

HURRICANE JOYCE, AUGUST 22 TO 27

As tropical storm Ione decreased to a depression on the 21st, two disturbances were forming at nearly the same latitude, 600 miles and 1,500 miles to the east. The more interesting of these was near 13° N, 110° W, an area of thunderstorms and squalls in which no center of rotation was apparent from the few peripheral ship reports. After viewing a movie loop of ATS-3 pictures taken on the 21st, it was evident that a circulation had begun near 14° N, 109° W, and it was designated a depression on the 22d. The depression was moving northwestward and slowly intensifying to become tropical storm Joyce, at 1800 on the 22d, near 15° N, 110° W.

The other disturbance developed into a depression, near 14° N, 124° W, at 0600 on the 22d, and at 1800 was increased in intensity to tropical storm Kirsten.

Tropical storm Joyce moved northwestward at 10 kn; increased in intensity to 60 kn at 1800 on the 23d near 17° N, 112° W, to 72 kn at 0000 on the 24th, to 75 kn at 1800 near 18° N, 116° W; and then began a gradual decline.

While Joyce was developing into a hurricane, and midway to tropical storm Kirsten, a tropical depression was forming near 11° N, 117° W. The depression developed rapidly into tropical storm Lorraine, with 35-kn winds near the center. It was moving northwestward at 8 kn.

Back to tropical storm Joyce, with 60-kn winds, she was moving westward at 7 kn near 18.5° N, 119° W, at 0000 on the 26th, when tropical storm Maggie formed

near 11.5° N, 105° W, shortly after Ione moved into the central Pacific. Joyce decreased to a tropical storm, near 19.3° N, 124.7° W, at 0600 on the 27th, and by 1800 was a 30-kn tropical depression, rapidly dissipating.

HURRICANE KIRSTEN, AUGUST 22 TO 29

There was a series of tropical depressions and disturbances between 10° and 15° N, from 105° to 135° W, on August 22, and one near 14° N, 124° W was moving northwestward at 15 kn, at 0600. This depression was caught between Ione to the west and Lorraine to the east, and slowed as it intensified to become tropical storm Kirsten, near 15° N, 126° W, at 1800. Further slowing to 8 kn, and intensification to hurricane strength, took place, at 1800 on the 23d, at 16.5° N, 129.7° W. A vessel 120 miles south of the center reported 60-kn winds at that time. At 1200, the tuna boat CABRILLO reported 50-kn winds, 100 miles from the center.

The hurricane was nearly stationary and torn between interacting with Ione to the west and Lorraine to the east. At 1200 on the 25th, she became a tropical storm, near 16.5° N, 131.2° W, and chose Lorraine by heading southeastward. Kirsten weakened to a tropical depression near 14° N, 127° W, at 0000 on the 29th.

TROPICAL STORM LORRAINE, AUGUST 23 TO 28

A disturbance developed into a tropical depression near 11° N, 117° W, some 480 miles southwest of Joyce, and 660 miles east-southeast of Kirsten, at 0000 on the 23d. The depression was moving northwestward at about 8 kn, with winds of 30 kn in squalls near the center. Six hours later, satellite pictures indicated it had intensified to tropical storm Lorraine.

The northwestward movement continued through 1200 on the 24th to near 12° N, 121° W, followed by a 10-kn northeastward movement through 1800 on the 26th to near 13° N, 118.5° W. Another jog toward the northwest continued until 17° N, 118.8° W was reached, at 0600 on the 27th, and the storm weakened to a depression. The depression then moved southwestward, weakened, and finally dissipated near 16.6° N, 122.3° W, at 0600 on the 28th.

HURRICANE MAGGIE, AUGUST 26 TO SEPTEMBER 1

A disturbed area near 10° N, 105° W, at 1200 on the 25th, became a depression by 1800, as indicated by the USNS SEALIFT, and DELTADRECHT. These reports suggested a closed circulation and a central low pressure. The depression intensified to tropical storm Maggie, at 0000 on the 26th, near 11.5° N, 105° W. Movement was toward the northwest at about 5 kn.

Satellite cameras followed the development to hurricane intensity, at 1800 on the 26th, with 65-kn winds near the center. Further intensification developed winds of 120 kn for an 18-hour period begin-

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ning 0600 on the 28th. This was followed by gradual weakening. Air Force reconnaissance aircraft made seven fixes on the storm, reporting windspeeds of 110 kn at 1800 on the 27th, 120 kn at 1800 on the 28th, 115 kn at 0000 on the 29th, 85 kn later on the 29th, and 65 kn on the 30th. Maggie became a tropical storm, at 0400 on the 31st, near 19° N, 116° W, and moved westward at about 10 kn. Weakening continued for another 42 hours until the storm became a depression with 30-kn winds near 20° N, 119° W, at 1800 September 1.

The lowest pressure measured in Maggie was 928 mb. The observer on board the aircraft reported "extremely strong winds from approximately 5 miles from the center into the eye wall." At that time, the eye had a radius of 9 miles and was circular.

HURRICANE NORMA, SEPTEMBER 9 TO 10

Large areas of showers and thunderstorms developed between 10° and 15° N, and from 95° to 112° W, on September 7. The area began breaking into cells on the 8th, and, at 1800, a circulation was indicated by reports from the NANCY LYKES and the RENATTOW, each with 20-kn winds and 1010-mb pressure, about 100 miles north and south, respectively, of the center, which was estimated near 13.5° N, 99° W.

Further organization was slow, but the area developed tropical storm Norma near 15° N, 100° W, before 1800 on the 9th, as indicated by a report from the ANGELBURG, with 40-kn winds and 25-ft seas near 16° N, 100° W. At 0000 on the 10th, the RYUYO MARU reported 40-kn winds, 40 miles north of the center, and the OLGA JACOR reported 45-kn winds, 60 miles to the northeast. At 0211 on the 10th, intensification to hurricane strength was indicated by satellite pictures, near 15.8° N, 100.8° W.

Norma curved north-northwestward at 5 to 8 kn, reaching the coast about 1500 on the 10th, about 60 miles west of Acapulco. Strong southwesterly winds continued for 24 hours in the offshore waters, similar to those after Dolores moved onshore on June 16. The MARITIME ACE reported 35-kn winds and 16-ft swells with 16-ft seas, 200 miles south of Manzanillo, at 1800 on the 10th.

The continued southwesterly flow of moisture brought heavy rains to the mountainous coastal areas, and the resulting earth slides caused at least three deaths in the Acapulco area.

HURRICANE ORLENE, SEPTEMBER 20 TO 24

As the Caribbean hurricane Fifi moved inland over Honduras the night of September 19, a tropical depression was forming near 14° N, 96° W. Winds of 30 to 35 kn were reported by the BUNGA SEROJA, POSTMAR, and 3E2P near the Gulf of Tehuantepec, as the remains of Fifi crossed the Continental Divide. The depression moved northwestward at about 4 kn and joined the upper-air circulation and energy associated with Fifi, which had moved westward at about 20 kn. The merging increased the intensity of both, and tropical storm

Orlene was formed with 40-kn winds.

The storm was first reported as having developed over land, but it was located just offshore, at 1200 on the 21st, about 60 miles east-southeast of Acapulco. Orlene moved northwestward at a speed of 10 kn, nearly paralleling the coast, and slowly increased in intensity. As she crossed latitude 20° N, acceleration began, and the track became a little east of north. Air Force reconnaissance of the storm indicated 59-kn winds, 20 miles east of the center, which was then at 23.4° N, 107.4° W, at 2100 on the 23d. Two hours later, the observer reported that rapid intensification had increased winds to 110 kn, near 23.8° N, 107.4° W.

A short time later, the hurricane moved inland between Culiacan and Mazatlan, Mexico. Heavy rains and gusty winds accompanied the storm inland, but the winds subsided quickly, and no reports of damage were received.

HURRICANE PATRICIA, OCTOBER 6 TO 17

A westward development of a disturbance was noticed late on October 4, near 10° N, 93° W. Between 1500 and 2200, the disturbance became better formed between 96° and 100° W. Definite organization was noticed in the early morning pictures on the 6th, near 10.4° N, 102.4° W, and development to tropical storm intensity occurred by 0000 on the 7th, near 10.6° N, 104.4° W, with maximum winds of 35 kn. The storm was then moving west-northwestward at 7 to 10 kn.

Further development to hurricane intensity occurred, by 1800 on the 7th, near 12.3° N, 108.5° W. The TACOMA CITY passed 130 miles south of the hurricane, on the 10th, but did not report winds greater than 20 kn, when Patricia had 80-kn winds near her center. The BRANSFIELD passed a few miles north of the hurricane, during the night of the 9th, but no 0600 or 1200 observations were received, and by 1800, she was well west of the center.

Gradual weakening began during the night of the 10th, and the hurricane turned southwestward, with forward motion slowing to about 6 kn. Patricia was downgraded to a tropical storm at 1200 on the 11th, and to a depression at 0600 on the 12th, near 16° N, 123.8° W. It was moving westward and increasing in speed to about 10 to 12 kn. Further weakening occurred. Satellite pictures indicated the remaining cloudiness moved northwestward to 18.5° N, 130° W, by 0000 on the 14th, and then southwestward again to 16.5° N, 134° W, by 0000 on the 15th.

At 0000 on the 15th, the TROLL RIVER reported southerly winds of 30 kn, and the TRANSCOLUMBIA reported southeasterly winds of 25 kn, 100 miles north of the center. The disturbance continued westward through 0000 on the 17th, to 17° N, 143° W, where it entered the easterly trades and was lost.

TROPICAL STORM ROSALIE, OCTOBER 20 TO 24

Tropical storm Rosalie would not have been observed if it were not for meteorological satellites. The

TROPICAL CYCLONES IN THE EASTERN NORTH PACIFIC

storm formed near 15° N, 133° W, at 1800 October 20, and moved westward and southwestward, averaging 5 kn, through 1800 on the 23d.

The nearest encounter with shipping was with the MEXICAN GULF, at 0000 on the 22d, while she was headed west at 14.6° N, 130.5° W, and tropical storm Rosalie was some 200 miles farther west. The MEXICAN

GULF altered her course to the northwest for 24 hours and passed 300 miles north of the center in nearly normal northeasterly tradewinds.

No other vessel reported from the storm area. Maximum winds indicated by satellite pictures were about 55 kn, between 1200 and 1800 on the 21st.

Tracks of Eastern North Pacific Tropical Storms and Hurricanes.

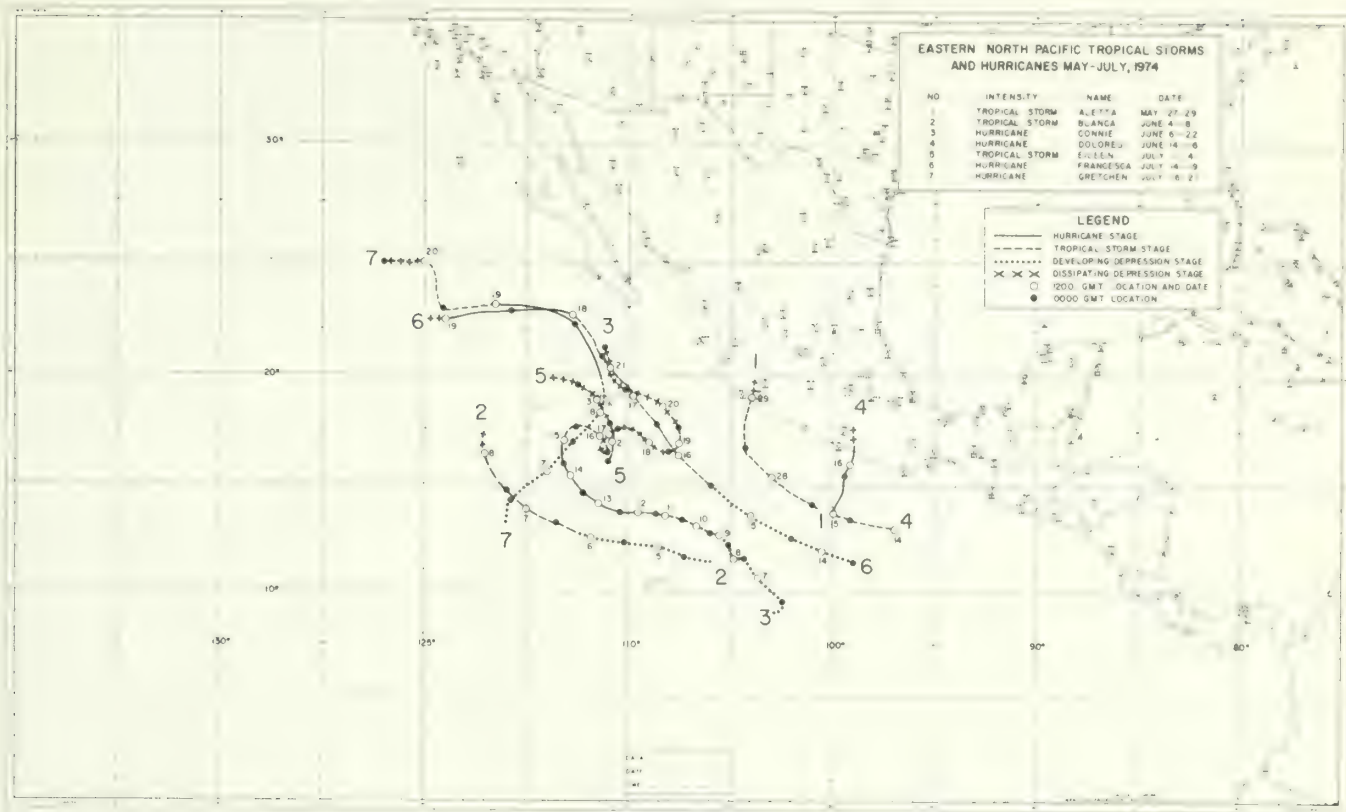


Figure 1

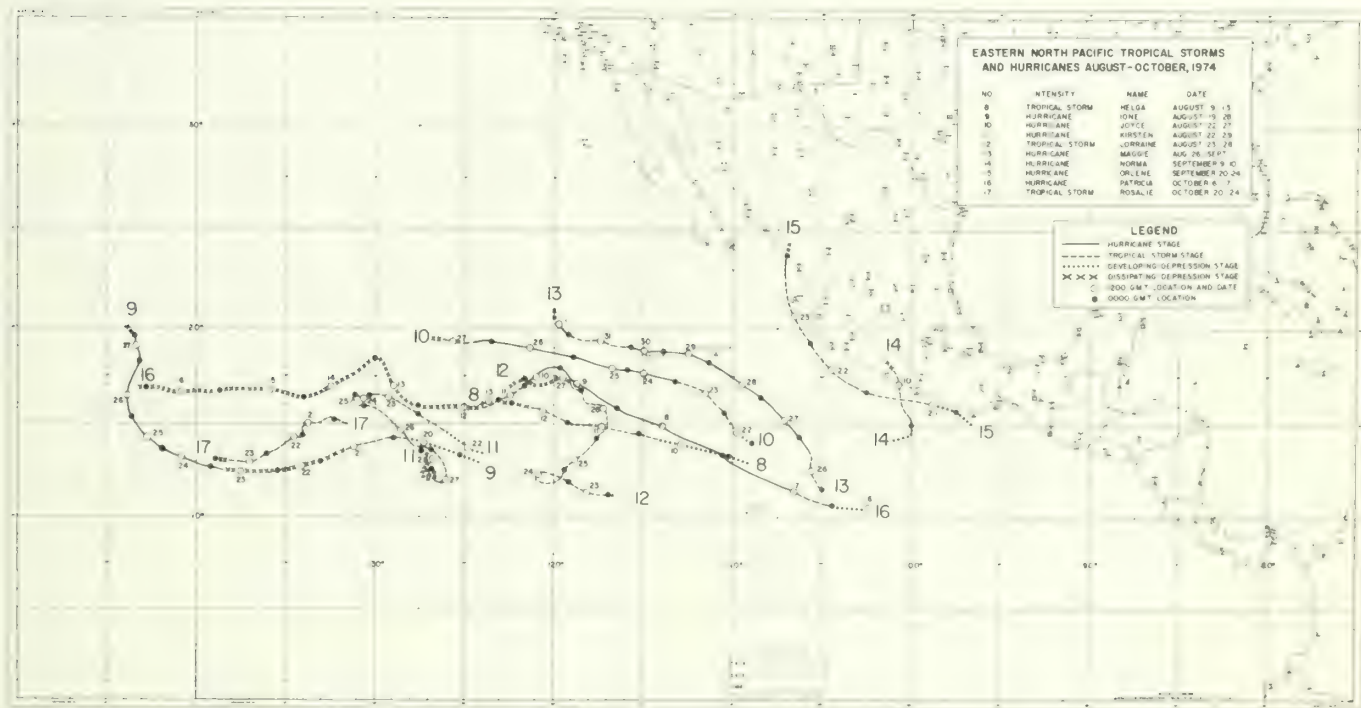


Figure 2

Table 1: Monthly distribution of tropical storms and hurricanes, 1974.

	May	June	July	Aug.	Sept.	Oct.	Nov.	Total
Tropical storms*	1	1	1	2	0	1	0	6
Hurricanes*	0	2	2	4	2	1	0	11
Total*	1	3	3	6	2	2	0	17

*Tropical cyclones are counted for the month in which they formed.

Table 2 : Frequency of tropical storms and hurricanes combined by months and years.

Year	May	June	July	Aug.	Sept.	Oct.	Nov.	Total
1966	0	1	0	4	6	2	0	13
1967	0	3	4	4	3	3	0	17
1968	0	1	4	8	3	3	0	19
1969	0	0	3	2	4	1	0	10
1970	1	3	6	4	1	2	1	18
1971	1	1	7	4	2	2	1	18
1972	1	0	1	6	2	1	1	12
1973	0	3	4	1	3	1	0	12
1974	1	3	3	6	2	2	0	17
Total	4	15	32	39	26	17	3	136
Average	0.4	1.7	3.6	4.3	2.9	1.9	0.3	15.1

Table 3 : Frequency of tropical storms reaching hurricane intensity by months and years.

Year	May	June	July	Aug.	Sept.	Oct.	Nov.	Total
1966	0	1	0	4	2	0	0	7
1967	0	1	0	2	1	2	0	6
1968	0	0	0	3	2	1	0	6
1969	0	0	1	1	1	1	0	4
1970	1	0	1	1	0	1	0	4
1971	1	1	5	2	2	1	0	12
1972	1	0	0	6	1	0	0	8
1973	0	1	3	0	2	1	0	7
1974	0	2	2	4	2	1	0	11
Total	3	6	12	23	13	8	0	65
	0.3	0.6	1.3	2.6	1.4	0.9	0.0	7.2

Table 4

Summary of eastern North Pacific Tropical Cyclones, 1974.

Name and intensity	Lifespan	Origin (°N, °W)	Dissipation (°N, °W)	Highest reported windspeed (km)	Highest windspeed (km), lowest pressure (mb) estimated by satellite	Remarks
Tropical storm Aletta	May 27-29	13.8, 100.3	19.1, 101.0	45 SANTA MARIA	29/1200 40 992	Moved inland about 20 mi southeast of Manzanillo
Tropical storm Blanca	June 4-8	11.5, 106.0	17.0, 117.0	None	40 992	No damage reported by shipping
Hurricane Connie	June 6-22	09.0, 103.0	21.2, 111.2	40 SHIP	16/1800 110 942	No damage reported by shipping
Hurricane Dolores	June 14-16	13.0, 97.0	16.9, 99.0	65 OCEAN HOPE	16/0600 72 973	At least 9 killed and 13 missing in mud slides near Acapulco; 6 lost on PEREGRINE.
Tropical storm Eileen	July 1-4	16.0, 111.0	20.0, 115.0	None	35 997	None
Hurricane Francesca	July 14-19	11.5, 99.0	22.5, 119.0	45 HOLTHAV 45 HANYANG	17/1800 72 973	None
Hurricane Gretchen	July 16-21	13.9, 116.0	25.0, 122.0	65 TAEPIG 85 USAF recon	18/1800 60 982 18/1946	None
Tropical storm Helga	August 9-13	13.0, 109.1	16.0, 124.0	None	40 990	None
Hurricane Ione	August 19-28	13.0, 124.4	19.5, 143.6	None	97 954	Passed to CPHC, Honolulu August 24, 1200 GMT
Hurricane Joyce	August 22-27	14.0, 109.0	19.5, 128.5	None	72 973	None
Hurricane Kirsten	August 22-29	13.6, 124.0	13.9, 127.3	60 SHIP 50 CABRILLO	23/1800 72 973 24/1200	None
Tropical storm Lorraine	August 23-28	11.2, 117.0	16.6, 122.3	35 CAMERONIA	25/1800 50 987	None
Hurricane Maggie	August 26- September 1	11.5, 105.0	20.3, 119.9	120 USAF recon	28/1800 122 928	None
Hurricane Norma	September 9-10	14.5, 100.9	17.7, 101.2	45 OLGA JACOR	10/0000 50 987	Moved onshore 75 mi north- west of Acapulco; 3 dead near Acapulco in mud slides.
Hurricane Orlene	September 20-24	15.4, 97.0	24.0, 107.0	48 ATLANTIDE 110 USAF recon	21/1800 65 978 23/2300	No report of damage. Moved onshore 20 mi southeast of Culcan.
Hurricane Patricia	October 6-17	10.4, 102.4	17.0, 143.0	35 BRANSFIELD	10/0000 97 954	Passed to CPHC, Honolulu October 16, 1200 GMT
Tropical storm Rosalie	October 20-24	15.0, 131.3	13.0, 139.0	None	50 987	None

TYPHOONS OF THE WESTERN NORTH PACIFIC, 1974

Captain Charles R. Holliday, USAF
Fleet Weather Central/Joint Typhoon Warning Center
Guam, Marianas Islands

There was a sharp reversal during 1974, from the abnormally light tropical cyclone activity observed during 1973. Named tropical cyclones numbered 32, which is 10% higher than the latest 15-year average displayed in Table 1. Climatological statistics on typhoons only are given in Table 2. Less than half (47%) of these tropical storms developed to typhoon strength (15) -- well below the average ratio of 65% derived from the long term average shown in (Table 3). Deviation of normal monthly typhoon distribution was particularly noticeable during July and August, when only three were recorded in contrast to the climatological average of seven.

The climatology of tropical cyclone activity in the western North Pacific during the last 30 years indicates a significant increase in tropical cyclones since 1960. This is probably due to better observational data, especially satellites, during recent years. Therefore, the Joint Typhoon Warning Center considers the last 15-year period as the most representative of the long-term average.

The number of typhoon days, however, numbered only 62, well below the 15-year average of 90 days. This reflects the tendency of this season's tropical cyclones not to develop beyond storm strength. (A typhoon day is defined as a day on which a typhoon occurred. Two typhoons on 1 day are counted as 2 typhoon days.)

No supertyphoons (maximum sustained winds, ≥ 130 kn) were observed during 1974, the first year since documentation began in 1959 that no typhoon reached this category. It is suspected, however, that typhoon Gloria may have approached supertyphoon intensity prior to landfall on the Philippines in early November. This is based on the trend of the central pressure fall of the final aircraft fixes, however, lack of additional supporting evidence restricts Gloria from being entered in the supertyphoon category.

One of the unusual synoptic features during August and September was the penetration of monsoon westerlies to more poleward latitudes than normal. This situation was caused initially by the extremely large circulation of typhoon Mary as she moved to subtropical latitudes. This resulted in an anomalous monsoon trough extending from the coast of South China northeastward to the Ryukyus. Of the four tropical cyclones that developed during this period, three (tropical depression No. 20, tropical storm Rose, and typhoon Shirley) displayed unusual initial courses, compared to climatology, by heading northeasterly.

By early October, the monsoon trough became re-established near its normal position in the Philippine Sea, and triggered development of a series of destructive cyclones which crossed the Philippine Islands. This parade of tropical cyclones, led by Bess in October and climaxed by Gloria in early November,

subjected the island of Luzon to the strikes of five typhoons in a period of slightly less than a month. The frequency of these repeated onslaughts to Luzon is unparalleled in climatological records available since World War II.

Based on available casualty reports, typhoons Dinah and Gilda, tropical storm Wendy, and tropical depression No. 20 accounted for the majority of the tropical cyclone-related casualties. Typhoon Gilda proved the most disastrous of the year. Gilda's circulation triggered flashfloods and landslides in Korea and Japan in early July, resulting in a heavy toll of lives (128). Damage estimates of \$1.2 billion in Japan rank it among the most costly to strike that country in recent years. Torrential rains from the extratropical stages of tropical depression No. 20 produced similar results on the western coast of Korea, in late August, accounting for a combined missing and dead total of 77. The worst marine disaster occurred near southern Taiwan, as the 3,500-ton Panamanian freighter SUN SHANG sank in heavy seas produced by tropical storm Wendy (60 kn), with the loss of 31 crewmen.

The northern Philippine Islands experienced a high frequency of typhoons (7) during the year, with Dinah's crossing of Luzon in June being the most disastrous, as casualties totaled 106. The succession of typhoons during October and November crossing Luzon, also inflicted heavy damage which was estimated at \$23 million, to the rice and sugar cane crops, with serious economic impact on the island republic. Reconnaissance of one of these typhoons (Bess) while in the South China Sea, led to the tragic loss of a U. S. Air Force weather reconnaissance aircraft and its crew of six.

The statistics for 1974 storms are contained in Table 4. The cyclone tracks are based on poststorm analysis. The dates given include the period when the storm was first identifiable, no matter what stage, until it dissipated or became extratropical. The maximum winds are overwater estimates of sustained windspeeds for a 1-minute averaging period.

The individual typhoons during 1974 are described in the following narratives. Specific times and figures are GMT. Tropical storm summaries can be found in the appropriate "smooth log" of the Mariners Weather Log.

CARLA

In late April the monsoon trough became active in the central Carolines, producing a tropical depression that later became tropical storm Babe. Shortly thereafter another circulation in the trough near Ponape was noted on April 29. The system tracked northwestward during the next 3 days as its development was aided by the upper level outflow of Babe tracking

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north of the Marianas. By May 2, the circulation was about 225 mi southwest of Saipan and had developed into tropical storm Carla.

Continuing a northwesterly track, Carla's center crossed Tinian, in the south central Marianas, about 0800 on the 3d. The U.S. Coast Guard Loran Station on southern Saipan (located a few mi to the north of the center) recorded a peak gust of 57 kn within an hour after passage of the center. The maximum 24-hr rainfall recorded on Saipan during passage was 2.63 in.

With a mid-tropospheric, long-wave trough situated between 130° and 135° E, Carla began to turn poleward late on the 3d. As Carla tracked 100 mi west of the northern Marianas, on the 4th, aircraft reconnaissance indicated its pressure had fallen to 978 mb, and maximum winds around its center neared 65 kn. By 1200 on the 4th, Carla had become the season's first typhoon.

The heavy rains and gusty winds brought to the Marianas by Carla took a heavy toll on fruit crops (bananas, citrus, etc.). Rota, Tinian, and Saipan reported 95% damage to crops, while Pagan and Agrihan in the northern Marianas reported 45% damage.

Carla continued to deepen on the 5th while moving northward. Reconnaissance aircraft measurements indicated peak intensity was attained early in the day southwest of the Maug Islands, as Carla's central pressure dipped to 963 mb. Maximum sustained one-minute surface winds were probably close to 80 to 85 kn near the eye at this time.

Increasing tropospheric shear began to weaken Carla after passing north of the 20th parallel as the cyclone approached the base of the mid-tropospheric westerlies. Twenty-four hrs after reaching peak intensity, Carla was reduced to tropical storm intensity 300 mi east of Iwo Jima.

In advance of a front moving southwestward from Japan, Carla began to accelerate northeastward on the 6th and central pressure filled. By 1200, synoptic and satellite data indicated the remains of Carla had merged with the frontal zone as a weak low near 36° N, 15° E.

DINAH

Dinah's incipient stages can be traced back to a weak circulation in the monsoon trough first noted on synoptic charts on June 5 in the west-central Carolines. The system tracked west-northwestward passing just north of Ulithi atoll early on the 6th reaching tropical depression status the next day. As a strong subtropical ridge built westward, the depression crossed the Philippine Sea at a rapid pace of up to 20 kn. On the 8th it began to slow in forward speed and intensify about 200 mi east of Samar Island.

Following somewhat of a meandering course, Dinah passed just north of Catanduanes Island on the 9th and veered temporarily to a northwesterly track in response to a short wave trough over the East China Sea.

Aircraft reconnaissance indicated that Dinah had developed typhoon-force winds in its northern semicircle during this period. An aircraft measurement at 0235 on the 10th, shortly before landfall indicated a central pressure of 974 mb the lowest observed during the cyclone's lifetime. At landfall, the coastal town of Baler (15 mi south of the center) reported a minimum pressure of 979.8 mb and gusts to 46 kn, while Casiguran, 35 mi north of the center, measured a gust to 47 kn.

Dinah cut across Luzon's mountainous terrain in less than 6 hrs emerging north of the Lingayen Gulf near the town of San Fernando. Torrential rains (24-hr totals up to 19.4 in at Virac and 15.4 in at Baler) set off flash flooding and landslides which claimed a toll of 73 dead and 33 missing. Estimates of damage caused by Dinah were approximately \$1 million.

Dinah assumed a westerly course after exiting Luzon and regained typhoon strength by midday on the 11th. Aircraft reconnaissance reported a central pressure of 978 mb at 0855 on the 11th, within a broad center estimated to be 50 mi in diameter. The Japanese ship MATSUSHIMA MARU passed about 40 mi east of the center a few hrs later, at 1200 on the 11th, and reported a minimum pressure of 980.8 mb. Dinah's central pressure varied little thereafter, and its center remained broad until landfall on Hainan Island.

As a high pressure region over South China advanced into the East China Sea, Dinah shifted course for the Luichow peninsula on the 12th. Rebuilding pressures, however, blocked Dinah from crossing the South China coast. Following transit of northern Hainan Island, Dinah weakened to tropical storm strength and entered North Vietnam south of Haiphong, quickly dissipating once inland.

While in the South China Sea, Dinah's circulation was extensive; radius of the area within the 1000-mb isobar was about 360 mi by the 11th. Pratas Island, 150 mi north of the center reported sustained winds (10 min) of 30 kn at 1200, and the Japanese ship NISSHO MARU, 125 mi east of the center, reported estimated winds of 45 kn. By the 12th, an unidentified ship, caught 60 mi north of the center reported estimated winds of 45 kn at 0000. Later that day, the Chinese meteorological station on the Paracel Islands, 120 mi south of the center, recorded sustained winds (10 min) of 45 kn. Strong gusty winds were also felt in Hong Kong on the 12th as the eye of Dinah passed some 200 to 250 mi to the south and southwest. Wagland Island in the Colony reported gusts up to 60 kn, and the Royal Observatory, gusts to 64 kn.

GILDA

The third typhoon of the season, Gilda, developed to typhoon strength 450 mi southeast of Okinawa on July 2. Initial detection of the system was on June 25, about 400 mi north of Eniwetok, as a weak circulation on the trailing edge of a surface trough which extended northeastward to the vicinity of Midway Island. The system moved westward for 5 days, displaying little marked development based on satellite data coverage. By the 29th, however, signs of increased organization

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became evident and, late the following day, Gilda's circulation had generated surface winds of tropical storm intensity.

Gilda began to move poleward on the 2d and developed winds of typhoon strength. A stationary, mid-tropospheric trough dominated eastern China. Early that day at 0600, the Japanese vessel SHINKYOKU MARU was southbound just ahead of Gilda's path and observed northwesterly winds of 45 kn and a pressure of 988 mb.

The typhoon reached its peak intensity during the next 2 days as it approached the Ryukyu chain. Reconnaissance aircraft measured a 944-mb central pressure at 1431 on the 4th when the eye passed 70 mi southwest of Naha, Okinawa. A peak gust of 85 kn was measured at the Naha Observatory at 0840 during passage, while on Kume Jima a gust of 101 kn was registered, several hrs later at 1550 when Gilda's eye passed 30 mi to the west.

Heavy rain and gusty winds from Gilda were responsible for almost a complete failure in Okinawa's electric power. Heavy rains (up to 10.8 in at Naha) also accounted for numerous landslides and local flooding. One person was reported killed, and several fishing vessels sank. Crops, including sugarcane, bananas, and vegetables, suffered extensive damage.

As the typhoon entered the East China Sea, it tracked northward around the western periphery of the mid-tropospheric subtropical ridge. Diminishing in intensity while approaching Cheju Do Island early on the 6th, Gilda responded to increasing upper-level southwesterly flow over Manchuria, and began to accelerate. By the 7th, Gilda's circulation was in the Sea of Japan as an extratropical system heading toward southern Hokkaido.

Gilda brought torrential rains to Korea during passage near the southeast coast, with total rainfall amounts exceeding 10 in near coastal areas. The highest amount of 10.8 in was measured at Kwangyang. The heavy rains caused flash flooding and landslides which completely or partially destroyed over 700 dwellings and left over 6,000 homeless. Total damage loss was estimated at \$2.8 million, with casualties of 21 dead and 11 missing.

Meanwhile, Gilda's circulation activated a stationary front over western and central Japan which produced torrential rains over a widespread area. The coastal town of Owase, on the Kii Peninsula reported an extreme 24-hr total of 16.5 in.

Newspaper reports indicated Gilda caused an estimated \$1.2 billion in property damage, including tens of thousands of flooded homes, damaged roads, and washed out railway lines and bridges. The toll in Japan from landslides and flash flooding accounted for 106 dead and 15 missing.

IVY

The 0000 synoptic chart for July 17 depicted multiple tropical cyclones over the Philippine Sea. Harriet

was weakening to depression status east of Okinawa as Jean was developing east of the Luzon Strait. There also was evidence of the strengthening of a depression in the monsoon trough 250 mi west-southwest of Guam. The last system, destined to become Ivy, intensified to tropical **storm** force late that day. Within 2 days, Ivy struck Luzon as a well-developed typhoon.

Ivy's track across the Philippine Sea was affected by a strong subtropical ridge that resulted in movement speeds of 15-18 kn. Once tropical storm Jean crossed into the East China Sea, the subtropical ridge built westward and prevented typhoon Ivy from taking the usual northwesterly track. Instead, the typhoon was forced to maintain a westerly course near the 15th parallel. The typhoon began to deepen rapidly on the 18th. Its central pressure dropped 32 mb in 20 hrs, reaching a minimum of 945 mb at 1037 on the 19th, about 15 hrs prior to landfall. Filling slightly, Ivy struck the Luzon coast south of Baler with sustained winds of 90 kn early on the 20th. A peak gust of 97 kn from the east and a minimum pressure of 973 mb was reported at the Baler meteorological station during eye passage.

The severity of the turbulence associated with Ivy prior to landfall on Luzon was attested to by an aircraft reconnaissance crew late on the 19th. During penetration of the wall cloud, turbulence was sufficient to flame out one of the WC-130's four engines. Fortunately, engine restart was accomplished by the crew while orbiting in the eye.

After crossing central Luzon, Ivy emerged into the South China Sea from the Lingayen Gulf and quickly regained the strength lost during transit over the mountainous terrain. In response to a mid-tropospheric trough positioned just east of the Tibetan Plateau, Ivy began to take a more northerly course, gradually slowed in forward speed, and intensified as it approached South China. Estimates based on satellite data indicated that prior to landfall, just east of the Luichow peninsula, on the 22d, maximum sustained winds near the center were probably in the 85-95 kn range.

The circulation of Ivy caused gale-force gusts at Hong Kong as she passed 150 mi south of the Colony. Peak gusts of 63 and 55 kn were recorded on the exposed islands of Cheung Chou and Waglan Island, respectively. Maximum 24-hr rainfall was relatively light at the Royal Observatory with only 1.4 in recorded on the 22d. Ivy's circulation quickly lost identity after moving inland on the 22d and the system disappeared from the surface analysis 24 hrs later.

In the Philippines the typhoon's casualty aftermath mounted to 66 persons, with 46 of these listed as missing. Hardest hit by Ivy was Baler, a town of 15,000, in which newspaper reports indicated 50% of the houses were leveled. Also in the Polillo Island group in Lamon Bay, 42 fishermen were reported lost following Ivy's passage. Estimates of damage to structures, crops, and livestock in Luzon were placed at \$2 million.

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MARY

From its early stages east of the Marianas to final dissipation over Japan, Mary's behavior was atypical of a tropical cyclone. Mary's circulation during the early stages was marked by maximum wind bands removed from the center by several hundred miles. In addition, the storm's circulation reached enormous proportions, dominating the weather events over the entire Philippine Sea for several days. The longest lived tropical cyclone of the season, Mary persisted for 17 days with $2\frac{1}{2}$ of these days spent inland from the East China coast. Mary culminated her unusual behavior by defying climatology, by leaving the East China coast on an easterly heading, and regenerating to typhoon strength.

First identified as a weak circulation on synoptic surface charts on July 9, Mary developed to depression status by the 11th, in the monsoon trough some 250 mi east of Saipan. It is significant that during this period surface pressure falls to 5 mb below normal were occurring along the trough across the Philippine Sea. As a result, the monsoon westerlies began to intensify and produced a narrow belt of winds averaging 25-30 kn feeding into the depression. By the 11th, satellite data revealed a band of cloudiness extending from the Philippines to the eastern Carolines in response to the strengthening monsoon flow.

Initially moving northeastward, Mary's circulation began to generate winds of tropical storm force late on the 11th. Thereafter, the storm shifted to a northwesterly course, abruptly accelerating in forward speed to 14 kn on the 13th. Mary's circulation was characterized during this period by the existence of maximum wind bands far removed from the low pressure center. Reconnaissance aircraft reports on the 11th and 12th indicated that the center was becoming increasingly separated from the associated convective cloudiness. By the 13th, the center was 200 mi from the nearest convective band. The dimensions of the anomalous structure was readily apparent in satellite views on the 14th. By this time, a band of convective cloudiness spiraling around the center in a broad arc was evident - a pattern quite similar to an extratropical low.

As Mary's center took a poleward component on the 12th and 13th, the associated convective band leading into the circulation and trailing some 500 mi south and southwest of the center, drifted over Guam. Winds gusting to gale force occurred over a period of 3 days starting early on the 11th. Peak gusts from the southwest reached 57 kn at 0950 on the 12th, and at 2013 the 13th at Andersen AFB. Rainfall amounts of 7.25 in in 24 hrs were recorded at Andersen AFB between the 11th and 12th as the island lay beneath Mary's outer convective band. This 24-hr rainfall amount exceeds all records for August on Guam.

The persistent strong southwesterly winds were responsible for significant damage to marine interests on Guam. The CARIBIA, a 40,000 ton passenger liner, being towed to Taiwan for salvage, broke loose from her tug at the entrance to Apra Harbor on the 12th, ran aground on the breakwater, and later sank. An

estimated \$3.3 million loss was associated with the sinking of this vessel. The heavy seas also took their toll on small craft (which are normally protected on the leeward side of the island in the trades) as many broke their moorings and went aground. One yacht valued at \$250,000 was included among the lost vessels. Two lives were lost due to drowning and damage estimates amounted to over \$542,000 in the Territory.

On Rota, Tinian, and Saipan crops were especially hard hit by the strong winds and torrential rains. On Tinian, the vessel MARIANAS broke from its moorings and went aground. In the northern Marianas, major damage was sustained, mostly to copra and banana trees.

As Mary neared the Volcano Islands, the area of surface pressure of 1000 mb or less was exceedingly large--stretching at its greatest diameter some 1200 mi in a north-northeast/south-southwest orientation and 850 mi in an east-west direction. The unusually low pressures in the trough trailing Mary southwestward into the Philippine Sea resulted in the development of a tropical depression some 350 mi north-northwest of Yap. Moving eastward in Mary's circulation, the depression apparently interacted with the tropical storm by midday of the 14th when it approached within 700 mi of Mary's center, Mary's forward motion began to slow and the storm abruptly shifted to a westerly course early on the 15th. Meanwhile the strong tropical depression accelerated in forward speed around Mary's southeastern side and dissipated due to the excessive vertical shear.

Late on the 14th, the center of Mary's broad eye passed 35 mi south of Chichi Jima. The island's meteorological station reported a minimum pressure of 977.1 mb, at 2240 on the 14th,--only slightly higher than an aircraft reconnaissance central pressure observation of 972 mb, a few hrs later at 0217 of the 15th.

On the 15th, a second depression was spawned 300 mi east of Luzon in the low pressure envelope trailing Mary. Accelerating eastward in Mary's circulation, Nadine developed to tropical storm force late on that day. Once Nadine was within 700 mi of Mary's center late on the 15th, a second interaction occurred, resulting in Mary's continued westward movement.

A long wave mid-tropospheric trough west of Lake Baikal began to deepen on the 16th, resulting in a rapid building of a ridge downstream over Manchuria with a high pressure cell centered near Port Arthur. This abnormally strong high blocked any further poleward movement and caused Mary to maintain an anomalous westward course until landfall on the East China coast on the 19th.

During this westward movement, satellite data indicated that Mary developed a more tropical appearance as a canopy of cloudiness covered the cyclone's center. Mary intensified slightly and for a short period on the 18th winds reached typhoon force as the storm cut through the Ryukyu chain. Naze City

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on Amami-O-Shima reported the lowest pressure - 979.6 mb at 0240 on the 18th as Mary's center passed 20 mi to the north. The highest winds in the Ryukyus were measured at Yakushima Island, which recorded a peak gust of 90 kn at 0040 on the 18th. As the typhoon's precipitation swept over southern Kyushu, heavy rainfall varying between 8 and 11 in were reported in the mountainous areas. Miyakonjo on Kyushu measured the largest 24 hr total of 6.4 in during the 18th.

Moving inland on the China coast about 100 mi south of Shanghai late on the 19th, Mary was blocked from moving into the mountainous interior by a high cell over central China. As a result, Mary stalled just inland as a deep depression for several days. Meanwhile, the mid-tropospheric ridge over Manchuria began to break down rapidly as a developing mid-tropospheric trough east of Lake Baikal began to deepen equatorwards.

By the 22d, the increasing westerly flow west of and over the Gulf of Chihli forced the depression back out over the open waters of the East China Sea.

Regenerating to minimum storm strength on the 23d, Mary passed over Okinawa as a "back door" storm early on the 24th, increasing in forward speed to 13 kn during the crossing. The meteorological station at Kadena Air Base registered a minimum pressure of 981 mb at 0105 on the 24th and a peak gust from the northwest of 41 kn. Center passage was estimated to be 18 mi north of Kadena. At the Naha Observatory a peak gust of 58 kn at 0330 of the 24th was recorded.

Later in the day Mary passed just north of Minami Daito Jima as the storm again achieved typhoon intensity. The Japanese weather station on the island experienced a peak gust of 90 kn, on the 24th at 1707, and a minimum pressure of 969.3 mb 3 min earlier.

The development of a low within a mid-tropospheric trough over Korea began to draw Mary on a northward course late on the 24th. Due to the tightening gradient over Japan created by this deepening trough and a subtropical ridge positioned east of Honshu, Mary accelerated north-northeastward reaching a forward speed of 26 kn prior to striking Honshu near Hamamatsu on the 26th.

Mary briefly maintained typhoon status on the 25th, but the cyclone's winds dropped to storm strength prior to landfall on Honshu. Further evidence of Mary's rejuvenation came from aircraft reconnaissance late on the 24th, observing a 15-mb pressure drop in 24 hr to 964 mb at 2141. Several hrs later the British vessel W. C. VAN HORNE was caught near the eye of the typhoon while 30 mi east of the center. Winds of 70 kn from the south and a pressure of 981.8 mb were reported from this vessel at 0600 on the 25th. Crossing the Japanese coastline near Hamamatsu, the meteorological station indicated Mary's central pressure had risen to 986.2 mb by 0030 on the 26th. Thirty minutes prior to center passage, a peak gust of 63 kn was recorded at the station. Elsewhere along the coast, Omaezaki reported a southerly gust of 69 kn at 0050.

Merging with a frontal system over Japan, Mary became extratropical, moving inland over Honshu early on the 26th. Heavy rains spread over the north central region of the island with the greatest 24 hr amount of 8.98 in occurring at Nikko. On the southern coast, Shizuoka City recorded a 24 hr total of 6 in.

Only one casualty occurred in the Japanese islands as a result of Mary; however, strong winds associated with Mary over the Sea of Japan were responsible for capsizing a fishing trawler off Cape Amasaki. Of a crew of 11, only 1 was rescued.

POLLY

While Mary was accelerating toward central Honshu, satellite data revealed another disturbance, induced from an upper-level low, was showing signs of development 400 mi east of the northern Marianas. Midday on the 26th, the circulation system intensified into Tropical Storm Polly about 40 mi northeast of Saipan. Development was rapid thereafter as the storm's central pressure dropped 25 mbs in a period of a day after an aircraft reconnaissance reading of 989 mb at 2056 on the 26th.

Polly's movement in the central Marianas was erratic as the storm was impeded by a high pressure cell located to the southwest near Yap. By the 27th, however, the flow about a strong high east of Japan dominated, and Polly departed the "col" region between the two anticyclones, increasing in forward speed to 12 kn.

Veering northward late on the 28th, the typhoon took aim on the Volcano Islands. Polly's central pressure continued to fall terminating at a minimum value of 948 mb 170 mi south of Iwo Jima. Twelve hrs later the typhoon passed abeam of Iwo Jima and, later on the 29th, passed about 70 mi west of Chichi Jima. Iwo Jima reported peak gusts of 108 kn from the south, at 0705 on the 29th after the eastern edge of Polly's 20 mi diameter eye passed the island. A minimum pressure of 951.5 mb was registered while in the eye. Later at 1240, Chichi Jima recorded a peak gust of 88 kn from the east-northeast and a minimum pressure of 989.8 mb, at 1900, during passage.

During Polly's advancement northward from the Marianas, Tropical Storm Rose generated east of Taiwan. Late on the 29th Rose had moved to a position just north of Okinawa, and become quasi-stationary. The proximity of Rose 700 mi west of Polly and a blocking high north and northeast of Polly resulted in the beginning of a Fujiwara interaction on the 30th. Polly began to turn northwest to westward during the next day and a half, as Rose sped around the south side of Polly's circulation.

With a long wave trough over eastern China, and Rose weakening significantly on Polly's eastern periphery, the typhoon veered abruptly to a northward track late on the 31st. Increasing in forward speed to 15 kn, Polly's center struck the Japanese islands of Shikoku and southwestern Honshu, emerging 6 hrs later in the Sea of Japan late on the 1st. Diminishing to tropical storm force in the Sea of Japan, Polly continued a

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poleward movement crossing the Russian coast east of Vladivostak as an extratropical low on the 2d.

As Polly's eye moved ashore on Shikoku, the Kochi City meteorological station 20 mi east of the center, measured a minimum pressure of 976.3 mb at 0920 on the 1st, and a peak gust from the east of 78 kn at 0930. The Ashizuri station (20 mi west of the center), however, reported the lowest pressure on the coast--966.5 mb at 0740. Murotomisaki (elev. 745 ft, 70 mi northeast of the center) reported the highest gust--95 kn from the east at 0310 on the 1st--several hrs before Polly's landfall. Maximum 24-hr rainfall measured on Shikoku Island due to Polly was 11.8 in at the coastal station of Ashizuri.

During the typhoon's passage across Japan, Polly's circulation intensified a stationary front over east central Honshu bringing excessively heavy rains to the mountainous area west of the Kanto plain. Ogochi, Tokyo prefecture, reported a total of 19.7 in during the typhoon's passage while stations in Saitama and Yamanashi prefectures received totals as high as 19.5 in and 14.4 in respectively. These heavy rains set off one of the worst floods in Tokyo since World War II. The swollen Tama River washed over its embankment at Komae, Tokyo prefecture, flooding many homes and causing 7600 inhabitants to be evacuated from their homes.

Elsewhere, electrical power was cut off in Kochi and Hiroshima in the path of Polly's center due to the high winds and landslides downing power lines. On the coast, two 10,000-ton freighters, berthed under construction at Urato Bay near Kochi, were washed out to sea when the water level went up some 9 feet. In the typhoon's wake, Polly left over 10,000 homes destroyed or inundated and a casualty toll of 45 injured and 9 dead or missing.

SHIRLEY

As Polly transformed to an extratropical cyclone in the Sea of Japan, the monsoon trough reformed across the Philippine Sea from Taiwan to the Volcano Islands. On September 3, a tropical cyclone was evident in synoptic and satellite data about 150 mi south of Okinawa. Drifting east and northeastward, Shirley was located about 60 mi south of Minami Daito Jima on the 4th, when aircraft reconnaissance reports observed winds reaching storm force in the circulation's northern semicircle.

Located at the base of an upper-level trough east of Korea, Shirley drifted slowly northward passing abeam of Minami Daito Jima early on the 5th. A minimum barometric reading of 986 mb was recorded at the island's weather station at 0300. Peak gusts out of the south measured 54 kn at 1300.

As the 500-mb trough over the Sea of Japan moved eastward on the 5th, rising heights north of Shirley caused the storm to turn westward. By the 6th aircraft reconnaissance of Shirley indicated winds had reached typhoon force shortly before the storm's center passed over the island of Okinoerabu-Shima in the Ryukyu chain. The barometer dipped to 977.4 mb on

the island during center passage at 1130, and as winds shifted to the south-southeast, a peak gust of 82 kn was recorded at 1310.

Shirley's circulation was rather small as gale force winds were limited to a radius of 75 mi of the center. To the north, Naze on Amami-O-Shima reported peak gusts to 43 kn at 0150 on the 7th, while to the south the gust recorder at the Naha Observatory measured 44 kn at 1530 on the 6th.

An approaching short wave over the Yellow Sea began to draw Shirley on a slow poleward drift on the 7th. As the base of this trough by-passed the typhoon to the north, Shirley accelerated in a northeasterly direction on the 8th, landing 12 hr later slightly below typhoon force on the coastline of Kyushu. Prior to landfall, the center passed directly over Kusagakishima (elevation 454 ft), which experienced a barometric reading of 982.4 mb at 0800 on the 8th and sustained 10-min winds of 70 kn.

The coastal city of Makurazuki, 10 mi south of center crossing, received wind gusts to 90 kn at 1050 from the south-southeast followed by a minimum pressure reading of 985.9 mb at 1120.

Accelerating to a forward speed of 24 kn, Shirley quickly passed Kyushu and Shikoku and transformed into a weak extratropical low over the Kii peninsula on the 9th. Strong gusty winds occurred along the southern coast of Shikoku as Shirley's center passed by late on the 8th. South-southeasterly winds peaking near 42 kn and 70 kn were recorded at Ashizuri and Murotomisaki (station elevations 142 and 745 ft respectively).

Torrential rains brought by Shirley totaled 6.2 in in 24 hrs at Nobeoka on the eastern coast of Kyushu, while Tokushima on the eastern coast of Shikoku reported 7.5 in in 24 hrs during passage. The heavy rains halted the Japanese National Railway services in parts of Kyushu and completely in Shikoku. Power blackouts were also widespread in Kyushu due to gusty winds downing power lines.

Landslides and flash flooding as a result of the rains were responsible for the flooding of over 30,000 homes, and a casualty toll of 13 dead or missing.

VIRGINIA

Developing from a disturbance initiated by an upper tropospheric low, Virginia began to display increasing organization in satellite data early on the 11th, 200 mi west of Marcus Island. The circulation advanced northward, shifting to a northeasterly course and developed tropical storm-force winds on the 12th. By the time aircraft reconnaissance was conducted on Virginia late on the 13th, the winds had increased to typhoon intensity. Flight level (700-mb) winds of 80 kn were measured in the southern semicircle on penetration, while a central pressure of 980 mb was recorded within an eye 40 mi in diameter.

Virginia developed winds of typhoon strength at an unusual poleward latitude of 33°N. This was only the

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sixth tropical cyclone since 1945 to first achieve typhoon intensity north of the 30th parallel.

As a deepening 500 mb low approached Manchuria from the Lake Baikal area on the 13th, the accompanying downstream ridging caused the westerlies north of Virginia to weaken and retreat poleward. As a result, the typhoon continued to move northeastward in a favorable vertical shear zone to maintain its intensity. Further aircraft reconnaissance of Virginia at 0730 on the 14th revealed that the storm was still tropical in character at the 37th parallel. The central pressure had dropped to 969 mb in an eye with a 700 mb temperature of 16°C. Maximum flight level (700-mb) winds of 90 kn were recorded just outside the eye in the wall cloud region.

By the 14th a major trough was deepening over Manchuria causing a strong ridge to develop over the Kamchatka peninsula. By midday Virginia was blocked by an anomalous high pressure cell to the northeast, resulting in an unusual northwestward movement for a tropical cyclone located at such a northerly latitude (37°N). Virginia's tropical lifetime ended shortly thereafter, as satellite data indicated weakening on the 15th and development of extratropical characteristics later in the day 400 mi east of Hokkaido.

During the typhoon's northward track numerous vessels in the shipping lanes were caught in its circulation and reported gale force winds. The strongest winds, 40 kn, were experienced by the Netherlands ship ZWIJNDRECHT on the 13th, and the PRESIDENT VAN BUREN (45 kn) on the 14th. The Japanese ship AKAISHI, caught near the center at 0000 on the 15th, reported northeasterly winds of 57 kn and a barometer reading of 989.5 mb.

AGNES

Evolving from a disturbance initiated by an upper tropospheric low, Agnes developed to depression intensity about 150 mi southeast of Marcus Island on September 24. Although weak, the flow about the subtropical ridge to the north of the depression kept the tropical cyclone on a slow westerly and later a west-northwesterly track for the next 3 days.

Indications from satellite data on the 25th revealed that the circulation was intensifying rapidly. Proof of this development occurred when the center of Agnes passed about 60 mi south of Marcus Island later that day. The Japanese meteorological station on the island experienced strong easterly gusts to 81 kn at 1140, following a minimum barometer reading of 998.7 mb at 0600. Aircraft reconnaissance of Agnes the next day, on the 26th at 1450, confirmed that the storm had gained typhoon force. Flight level (700 mb) winds of 70 kn and a central pressure of 984 mb were reported.

As a cell in the subtropical ridge west of Agnes weakened significantly on the 27th, the typhoon abruptly turned northward. Upper level westerlies strengthened east of Japan and Agnes shifted to an east-northeasterly track 36 hr thereafter, and accelerated in forward speed early on the 29th.

Like typhoon Virginia, Agnes continued to deepen after recurvature. Reconnaissance aircraft observed the lowest central pressure of the typhoon's life (961 mb) at 0303 on the 30th. In addition, flight level (700 mb) winds of 135 kn were observed 40 mi from the center during exit from the eye. The forward speed of Agnes at this time had increased to 15 kn.

Over the Kuril Islands, a 500-mb low was moving eastward accompanied by a deep trough. The amplification of strong southwesterly flow ahead of the trough caused Agnes to turn on a northeast course and accelerate to 30 kn by October 1. Satellite data indicated Agnes acquired extratropical characteristics after crossing latitude 35°N; however, the circulation remained intense as evidenced by aircraft observed winds (at 700 mb) of 110 kn at 0415 on the 1st. The strong extratropical low of Agnes continued to race poleward thereafter, finally merging with the advancing 500-mb low 300 mi south of Attu in the Aleutian chain on the 3d.

BESS

The circulation that eventually developed into Typhoon Bess was first noted on the 0000 synoptic chart south of Guam on October 7. The circulation was accompanied by broad monsoonal flow, and by the 9th evidence from satellite data and aircraft reconnaissance indicated two centers had developed. The northern system dominated, while the center that had initially been tracked for several days dissipated. Because of strong subtropical ridge, movement of the entire, complex circulation up to this time had been rapid, with a forward speed of 18 kn. Later a deepening trough in the westerlies over the East China Sea caused the pressures north of the storm to weaken, and Bess slowed to almost half her original speed.

Winds in the cyclone reached typhoon intensity early on the 10th as it approached northern Luzon. Approximately 24 hrs later, coastal crossing occurred about 50 mi south of Escarpada Point. Inland, Tuguegarao City reported a pressure of 976.9 mb (the minimum reported during the storm's lifetime) when Bess' center passed 30 mi north of the station. Relatively unaffected by a short journey over the mountainous island, Bess emerged into the South China Sea as a minimal typhoon.

Bess' circulation brought high winds which affected much of Luzon and the straits. Baguio weather station (elevation 4860 ft) experienced wind gusts to 80 kn while Aparri on the northern coast recorded a gust to 96 kn. In the Luzon straits, several ships reported strong winds as the typhoon's center passed to the south on the 11th. The Indian ship BAILADIA and the German vessel BAMBERG experienced northeasterly winds of 50 kn and 57 kn, respectively. Considerable rainfall with 24 hr totals of 5 to 6 in occurred over much of northern Luzon, with a 24-hr extreme of 30.8 in measured at Baguio. Landslides and flash flooding accounted for casualties of 26 killed and 3 missing. Total damage, including public and private property, agricultural crops (rice), and livestock was estimated near \$9.2 million.

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Once in the South China Sea, Bess turned westward in response to a massive high pressure area dominating central and South China. The combination of the typhoon's envelope of low pressure and this high-pressure area generated a strong northeast flow over the waters south of the China coast. Pratas Island, 110 mi northwest of the typhoon's center, reported sustained 10 min winds of 50 kn on the 12th, while the British Ship MARCO POLO estimated winds of 45 kn, 220 mi northwest of the center. As Bess moved south of Hong Kong late on the 12th, peak gusts of 58 and 49 kn were observed at Waglan Island and the Royal Observatory, respectively.

As the modifying northeast monsoon flow entered the typhoon's circulation, the central pressure began to rise and winds associated with Bess dropped to tropical storm strength on 13th. Bess increased in forward speed crossing Hainan Island late in the day, and weakened to depression intensity. Emerging into the Gulf of Tonkin, the circulation continued to weaken, eventually dissipating on the North Vietnam coast early on the 14th.

In addition to the damage wrought on the Philippines, Bess claimed a U. S. Air Force reconnaissance aircraft in the South China Sea south of Hong Kong on the 12th. Last contact with the mission occurred while the aircraft was collecting peripheral data in the typhoon's northern semicircle. Nothing was ever heard again of the plane or its crew of six.

CARMEN

As Bess passed south of Hong Kong, the monsoon trough in the Philippine Sea produced another circulation west of Yap. This system moved westward displaying increasing organization on satellite data. Reports of 45 kn westerly winds and 998.5 mb pressure were received from the Liberian Ship ASIAN MORALITY as it passed close to the center at 0000 on the 15th. This confirmed that Carmen had reached tropical storm strength 180 mi east of Samar Island.

Intensifying further, Carmen turned to a northwesterly course and headed for northern Luzon. Some 12 hrs prior to arrival on the Luzon coast near Casiguran, aircraft reconnaissance reported a central pressure of 974 mb, the lowest during the lifetime of the storm, and winds of minimal typhoon force.

Casiguran reported gusts to 59 kn and a minimum pressure of 981.2 mb as the center passed just north of the station. Maximum 24-hr rainfall recorded as the storm cut across Luzon was at Baguio (8.98 in). Casualties in the wake of Carmen amounted to 13 dead, and damage was estimated near \$11.6 million.

Elsewhere, eastern Taiwan suffered crop damage of near \$1.4 million because of the heavy rains associated with typhoons Bess and Carmen. Newspaper reports indicated 11 persons killed on Taiwan.

As Carmen entered the South China Sea, weakening pressures over east-central China influenced the typhoon to slow in forward speed. On the 18th satellite intensity estimates indicated Carmen probably

reached a peak strength of 75 kn about 120 mi south of Hong Kong as the storm edged slowly northwestward.

During the 18th several ships caught in Carmen's circulation reported strong winds. At 0000, and unidentified vessel experienced northerly winds of 45 kn 150 mi northwest of the typhoon's center, while the Norwegian ship JARAMA reported easterly winds of 50 kn 130 mi to the northeast. Later, at 1200 and 0000 on the 19th, the U. S. ship RAPHAEL SEMMES passing south of the center reported 60 kn winds.

Following the passage of an upper level trough over the Yellow Sea on the 18th, a high pressure ridge began to penetrate into South China, causing a north-easterly flow of modified air from the land mass into the typhoon's circulation. Within 24 hrs, Carmen's central pressure began to fill rapidly, and winds dropped to tropical storm force. Turning on a more westerly course, Carmen weakened to depression strength and later dissipated east of the Luichow peninsula.

The center of Carmen approached within 70 mi of Hong Kong on the 19th producing considerable rainfall and gale-force winds in the Colony. Peak gusts of 70 kn were observed both at Waglan Island and the Royal Observatory. Maximum rainfall during the 3-day period (18-20 Oct.) totaled 18.1 in. Carmen brought much needed rain to the Colony which was suffering from a drought; however, heavy downpours flooded many low-lying areas and caused landslides and road collapses. Newspaper reports indicated extensive crop damage due to flooding caused by the rains. Two freighters went aground and four other vessels broke away from their moorings. One fatality was attributed to Carmen in the Colony.

DELLA

The third in a succession of tropical cyclones developing during October, Della formed in the monsoon trough south of Guam while Carmen weakened in the South China Sea on the 19th. Two days later, the circulation intensified to tropical storm strength approximately 250 mi east of Samar Island.

The subtropical ridge north of Della eroded quickly on the 21st, as a major short wave in the westerlies approached from China. Della was drawn up into the area of weakness and the storm shifted to a northwest and later a north-northwest track. While winds about the center reached typhoon force, the short wave trough passed the meridian of Della late on the 22d. With passage of the trough a strong high pressure advanced into southeast China, and blocked Della's further poleward movement. The typhoon responded by turning sharply westward.

Navigating the Luzon straits during the 23d, Della shifted southwestward and skirted the Luzon coast near Cape Bojeador. During this period, strong gusty winds swept the northern Luzon coastline. Aparri measured a gust to 85 kn from the south after center passage, while Laoag reported southwesterly winds gusting to 56 kn. Vigan, on the west coast, received the heaviest 24-hr rainfall. Only slight damage oc-

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curred in the Philippines because the center avoided landfall.

Charting a westward course across the South China Sea as a relatively small typhoon, Della intensified steadily. A Japanese ship, the YAMAMIZU MARU, encountered winds of 60 kn southeast of the center at 0600 on the 24th, while the Israeli ship NURITH reported 60 kn winds as it crossed west of Della's eye 12 hrs later at 1800. Aircraft reconnaissance of Della on the 25th, measured a central pressure of 958 mb, at 0456, within a tight eye 15 mi in diameter. This was the lowest recorded during the storm.

Intensity estimates from satellite data suggested that Della weakened slightly before landfall on Hainan Island on the 26th. Emerging into and crossing the Gulf of Tonkin, the storm never regained its former intensity. Following coastal crossing of North Vietnam early on the 27th, the circulation weakened and subsequently disappeared from synoptic analyses.

ELAINE

Elaine, the largest of the typhoons to traverse the Philippine Sea during October, was upgraded from tropical depression status early on October 25 about 550 mi northwest of Guam. Developing from a circulation in the monsoon trough near Guam (the fourth to form in the trough during October), the envelope of Elaine's 1000-mb isobar eventually grew to 500 mi in diameter prior to striking Luzon a week after initial detection. During this period, Elaine intensified markedly as aircraft reconnaissance of the typhoon, 12 hours prior to striking Luzon, observed a central pressure of 943 mb and 700-mb flight-level winds of 110 kn.

The same high pressure regime that forced Della on a westerly track through the Luzon straits on the 23d extended eastward and late on the 24th blocked Elaine (as a depression) from any further poleward movement. For a period of 3 days, Elaine was influenced by this ridge of high pressure to the north, forcing the typhoon on an atypical westerly heading across the Philippine Sea - an anomalous track for October tropical cyclones developing near the Marianas which normally follow a northward recurving course.

Elaine, the most severe typhoon to strike Luzon this month, brought strong winds over a large expanse of the northern Philippines. Inland, Tuguegarao City observed a minimum pressure of 958.7 mb, at 2300 on the 27th, and peak gusts to 96 kn as the center passed south of the station. The west coast station of Vigan recorded a minimum pressure of 972.0 mb with an extreme gust of 100 kn at 1100 on the 28th, as the center emerged into the South China Sea. Newspaper reports indicated the winds were strong enough to lift a new galvanized iron roof off a centuries old cathedral in Vigan. Manila (180 mi to the south) received gusts to 43 kn. Baguio experienced extreme winds of 76 kn when the center passed 70 mi to the north.

Elaine brought 24-hr rainfall totals of 3 to 4 in to

northern Luzon while Manila reported 10.5 in. An extreme 24-hr amount of 32.2 in was reported at Baguio. The heavy rains combined with those of Della several days earlier left most farmlands under water.

Damage was extensive in Luzon with estimates of losses to crops, private and public properties amounting to \$21 million. Thousands of homes were destroyed or damaged with some 300,000 persons left homeless. A total of 23 persons were listed as killed, 14 of whom were lost when swept off a ferryboat in the Sibuyan Sea.

Maritime casualties were high as 20 Philippine fishermen were counted missing in coastal waters. At Sea, the 39-ton Japanese vessel KOSHU MARU sank east of Luzon with its crew of 11 presumed lost. The 3,800 ton Korean ship MOKPO reported flooding and serious damage near the Luzon straits.

Elaine turned westward, then west-northwestward, while moving across the South China Sea as the region of high pressure dominating China weakened. During the 28th and 29th, the typhoon's circulation brought strong winds to several merchant vessels. The highest values reported were from the Japanese vessel OLYMPUS MARU which experienced 50 kn west of the center on the 28th at 1200 as Elaine was emerging from the Luzon coast, and later from the Russian ship ALEXANDER IVANOV, on the 29th at 1200, 120 mi north of the center who also reported winds of 50 kn. Pratas Island observed sustained (10 min) winds of 45 kn as Elaine's center passed 120 mi to the south on the 29th.

As the typhoon advanced northwestward, pressure over South China continued to fall causing Elaine to slow to almost a stall 90 mi south of Hong Kong late on the 29th. At this time, an onset of northeast monsoon flow influenced Elaine's circulation with subsequent filling and rapid weakening of winds about the center to storm strength. By the 31st Elaine was reduced to a tropical depression and forced southwestward by an advancing high pressure ridge over South China. One day later the circulation dissipated southeast of Hainan Island.

During the cyclone's close proximity to Hong Kong, Elaine brought gale-force winds to the Colony. The Royal Observatory registered a gust to 52 kn, while winds peaked to 55 kn on Wagland Island. A 2-day (30th and 31st) rainfall amount of 8.6 in was measured at the Royal Observatory when Elaine stalled offshore.

GLORIA

Gloria, like Elaine, developed a large circulation with the cyclone's 1000-mb isobar reaching 400 mi in diameter while traversing the Philippine Sea. Gloria, however, developed to these dimensions early in its life as the storm reached typhoon force 50 mi north of Yap Island on November 4. Earlier, Gloria had developed from a depression in the active monsoon trough and passed about 10 mi northeast of Yap. The island's weather station registered a minimum pressure of 985.7 mb at 2020 on the 3d and later a peak gust of 46 kn as winds shifted to the west.

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The building of a strong surface ridge southwestward from Marcus Island subjected Gloria to a tightening gradient and strengthening flow in the right semi-circle. Strong winds were observed at a considerable distance toward the northeast with Andersen AFB Guam, 350 mi from the center, observing gusts to 46 kn at midday on the 3d.

Gloria commenced an unusual acceleration in forward speed of up to 24 kn during the 4th - twice the normal for the area. Moving some 500 mi in 24 hrs, Gloria occupied the central Philippine Sea early on the 5th. The FREDRICK LYKES caught west of the center at 0000 on the 5th, reported northwesterly winds of 60 kn, while the barometer dipped to 983.4 mb.

Rapid deepening occurred once typhoon force was attained early on the 4th as Gloria's central pressure fell at a rate of 2.3 mb/hr during the rest of the day culminating in a minimum of 937-mb at 0400 on the 5th. Aircraft reconnaissance of the central core region early on the 5th proved extremely difficult as the eye diameter was only 4 mi. The typhoon's central pressure rose to 955 mb during the next 12 hrs as Gloria's forward motion slowed temporarily to 10 kn. Following the rapid filling process, the typhoon's central pressure began an unusual second deepening as Gloria once again increased in forward speed to 15 kn, targeting in on northern Luzon. The last aircraft reconnaissance of the typhoon in the Philippine Sea was 10 hrs before landfall and revealed Gloria had strengthened markedly--700-mb flight level winds of 120 kn during penetration and a minimum pressure of 931 mb at 0916 on the 6th. This was the lowest pressure recorded during the year.

Following landfall, Gloria cut across Luzon in 6 hrs. Maximum winds recorded during the cyclone's passage occurred at the northern coastal station of Aparri which reported gusts to 96 kn from the northeast and Vigan on the west coast registering south-southwest winds peaking at 94 kn. Laoag received winds gusting to 81 kn prior to Gloria's emergence in the South China Sea. The island town of Tugubgarao, 20 mi south of the center's path, observed the lowest pressure--972.9 mb. Rainfall amounts for a 24-hr period ranged from 3.8 in at Aparri to 7.8 in at Tugubgarao while Baguio reported an extreme of 18.9 in.

Gloria climaxed a series of five typhoons which affected Luzon in less than a month--a record frequency dating back to 1945. Newspaper reports indicated \$3.2 million in damage to crops, public and private property as a result of Gloria. Over 700 homes were destroyed by wind or inundated by floodwaters leaving close to a 1000 persons homeless. A casualty toll of 10 persons was reported in the typhoon's wake, mostly due to drownings.

As Gloria exited Luzon into the South China Sea on the 7th, its forward motion slowed and a gradual northward track commenced as surface pressures were anomalously low over South China. However, like Elaine, Gloria failed to reach the China coast. A massive high pressure area from Manchuria began to penetrate into central China on the 9th, blocking further northward progress. The influx of modified air off the mainland due to the onset of a northeast

monsoon began to affect Gloria by midday of the 8th, as the circulation dropped in intensity to storm force. Reduced to a tropical depression by the 9th, Gloria began to drift southward and dissipated on the 10th as pressure continued to build over South China.

During the storm's transit of the waters west of Luzon during the 7th and 8th, some of the highest winds reported by merchant vessels during the year occurred. Winds of 65 kn were reported from a British vessel at 1200 on the 7th and the Kuwait ship ARABIYAH at 0000 on the 8th as both vessels passed within 60 mi of the eye.

IRMA

The year's last typhoon, Irma, terminated the barrage of late season typhoons to strike Luzon Island of the Philippine archipelago during October and November.

Initial development of Irma took place south of Guam as a depression in the monsoon trough and passed north of Ulihi atoll on November 22. Irma's circulation intensified rapidly and produced typhoon force winds late on the 23d. Like Elaine and Gloria, Irma's circulation dominated the Philippine Sea with the diameter of the 1000-mb isobar extending about 450 mi by the 23d. The central pressure of the typhoon plummeted after passage of Ulihi until a minimum of 939 mb was recorded by aircraft reconnaissance 3½ days later on the 26th at 0635. Sustained surface winds generated around Irma's eye were estimated to be 115 kn during the 26th, as the typhoon reached its peak intensity 400 mi east of Luzon.

Late on the 25th a massive high pressure ridge extended eastward from China to the Ryukyu chain and prevented further poleward movement by Typhoon Irma which was latitude 16°N. This ridge dominated the region north of the typhoon through the 27th forcing Irma on an almost straight westerly track until it crossed the coast of Luzon. The turn of Irma to the west was again very unusual. After reaching such a poleward latitude in the Philippine Sea few November typhoons fail to curve to the north.

Of the ships caught in the typhoon's gale-force wind area in the Philippine Sea, the vessels MIKUNISAN MARU (200 mi west of the center at 1200 on the 25th) and a British ship ORENDA BRIDGE (200 mi northeast of the center at 0000 on the 26th) both reported 45 kn winds.

Maritime casualties included several ships caught in heavy seas produced by Irma's peripheral winds. The 5-ton Liberian ship PACIFICOEVERTT ran aground near Siarago Island in the southern portion of the Philippines, while the 4½-ton Singapore ship FUSAN met the same fate at Nazasa Bay on Subic Bay. Reports from Catabato, Mindanao, indicated the 2-ton Philippine vessel ZAMBOANGA CITY capsized and sunk offshore, but all the crew survived. Not so fortunate was the 3-ton Panamanian ship GREEN HILL which sank after the cargo shifted 60 mi north of Miyako Jima in the Ryukyu chain. Of a crew of 20, four were lost.

Striking Luzon early on the 28th, the eye of Irma crossed the coastline 30 mi south of Baler, passing

TYPHOONS OF THE WESTERN NORTH PACIFIC

directly over Clark Air Base, later exiting Luzon near Iba on the west coast. Peak gusts of 74 kn and a minimum pressure of 983.9 mb were experienced at Baler. Later Clark AB recorded a barometric reading of 979 mb in the eye at 0700 on the 28th, while registering a peak gust of 83 kn from the northwest at 0500. This was the highest recorded gust at Clark AB since before World War II. As Irma's eye emerged on the west coast, east-southeasterly winds peaking at 58 kn occurred at Iba as the pressure dropped to 983.5 mb.

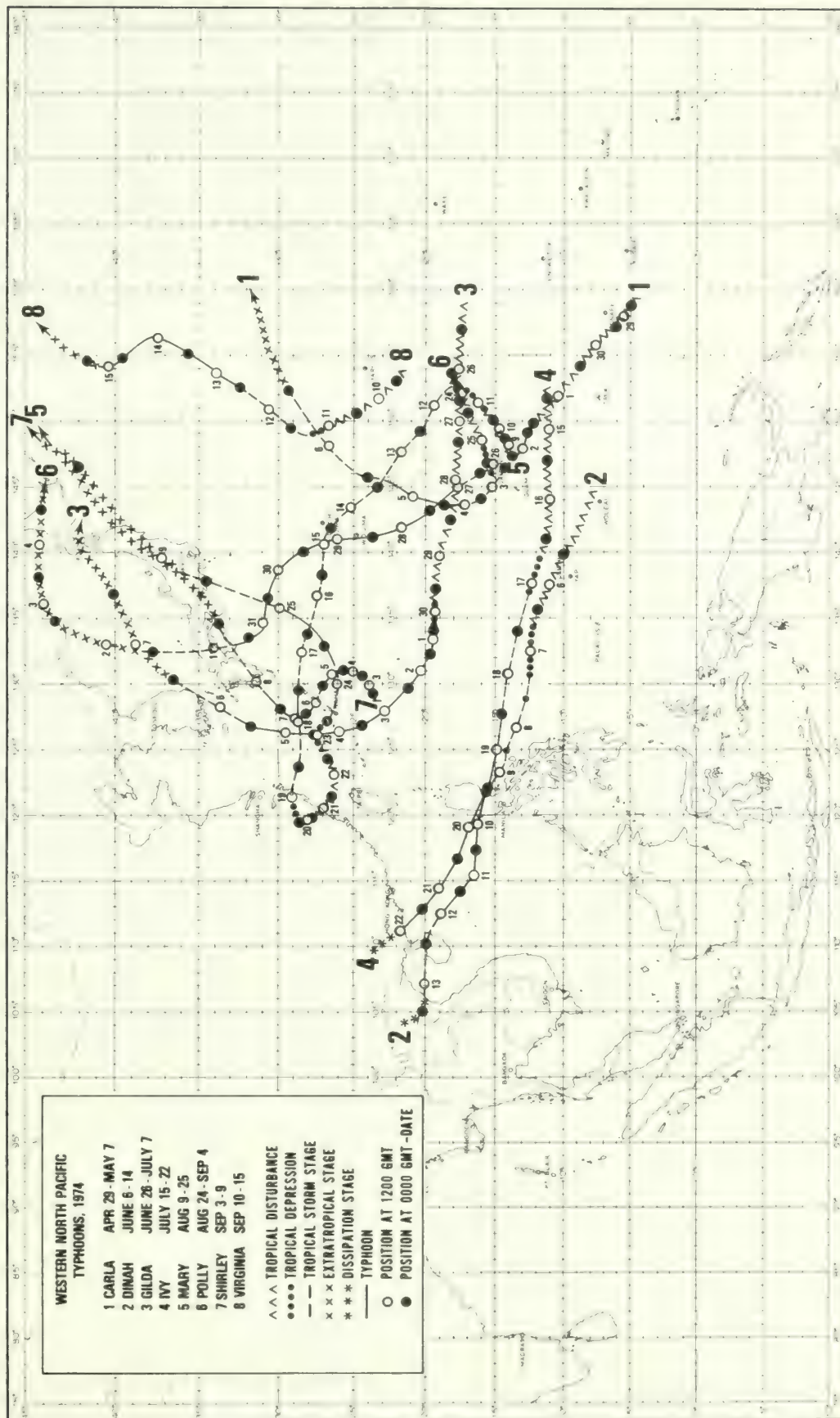
Twenty-four hour rainfall totals from Irma generally varied from 2 to 5 in over Luzon with an extreme of 6.7 in recorded at Cubi Point Naval Air Station. This amount broke previous station records for the month of November (previous 24-hr maximum was 5.3 in).

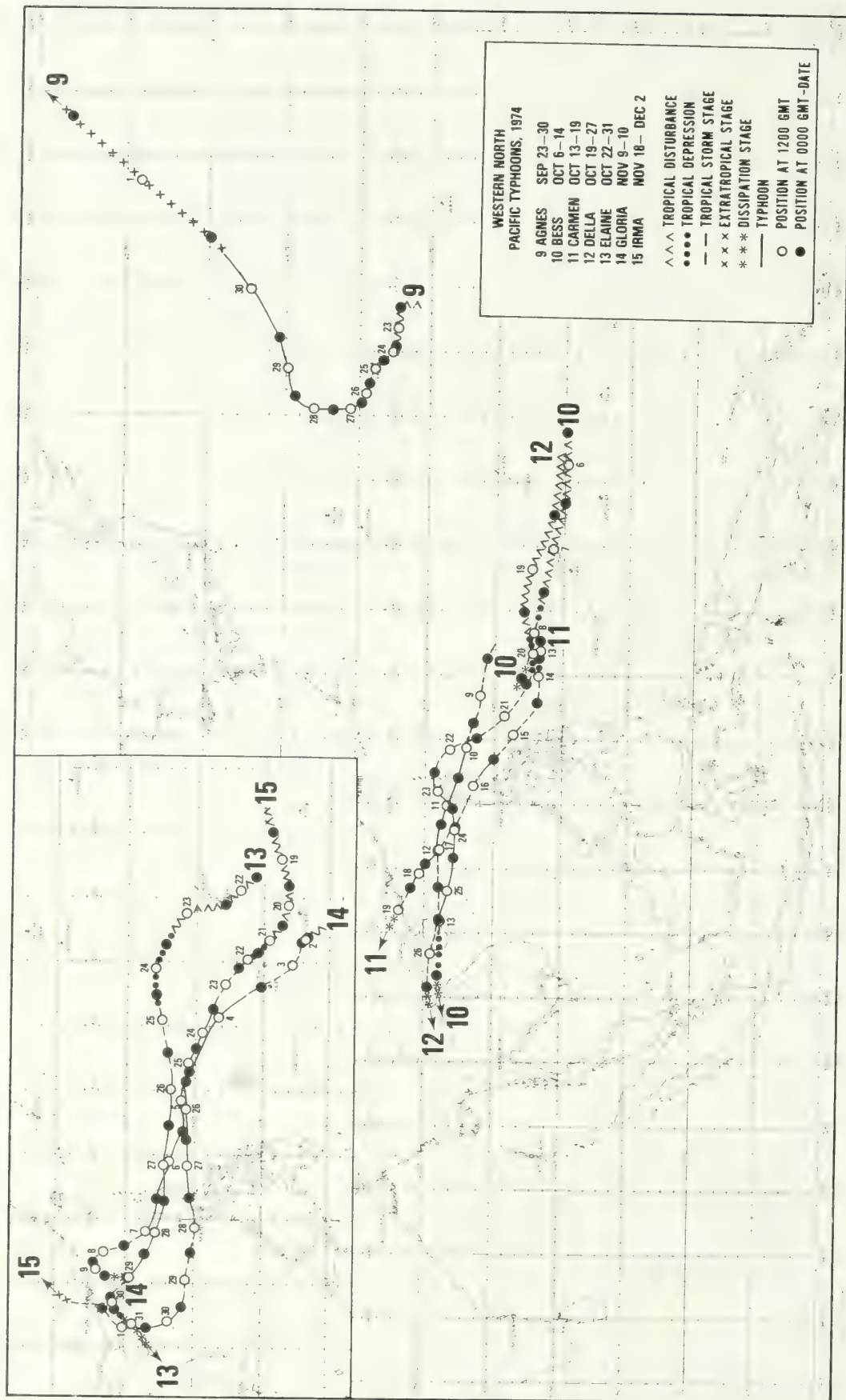
Irma brought strong gale-force winds to the metropolitan area of Manila. A gust to 51 kn from the southwest was reported at the international airport while the port area experienced westerly winds gusting to 60 kn. Several ships in Manila Bay were reported blown almost to the Roxas boulevard seawall during the seige.

Damage to public and private buildings, public works, crops, and livestock was estimated at \$7.3 million. Over 1000 homes were reported destroyed or partially damaged by the winds. Newspaper reports indicated Irma claimed 11 lives in addition to sinking several small vessels and fishing boats.

As Irma departed Luzon the ridge of high pressure over South China weakened allowing the cyclone, then of tropical storm strength, to take a slight poleward motion during its track across the South China Sea. Late on the 29th pressure began to fall over southwestern China as remnants of a tropical depression moved into the area from Burma. Irma briefly regained typhoon strength during this period, and abruptly turned toward the north on the 30th, passing over the Paracel Islands. A meteorological station in the islands observed a pressure minimum of 970.5 mb, at 1200 on the 30th, and sustained winds of 60 kn as the winds shifted from the west at 1500. Based on available records since 1945, no tropical cyclone has been as intense as Irma so late in season in the northern South China Sea.

Passing abeam of Hainan Island on December 1, Irma dropped below typhoon strength and rapidly filled while approaching the South China coast. Tracking 30 mi west of Hong Kong, the circulation dissipated inland on the 2d. Maximum rainfall brought to Hong Kong by the weakening storm was 7 in recorded at the Royal Observatory during the 2d, while southerly winds gusting to 34 kn were observed at Cheung Chau. It is noteworthy to mention that Irma was the latest tropical storm on record to affect the South China Coast.





WESTERN NORTH PACIFIC
TROPICAL STORMS, 1974

1 WANDA JAN 8 - 13
2 AMY MAR 13 - 19
3 BABE APR 25 - MAY 1
4 EMMA JUNE 10 - 18
5 FREDA JUNE 17 - 21
6 HARRIET JULY 13 - 19
7 JEAN JULY 15 - 21
8 KIM JULY 21 - 24
9 LUCY AUG 04 - 12

^^^ TROPICAL DISTURBANCE
●●● TROPICAL DEPRESSION
--- TROPICAL STORM STAGE
* * * EXTRATROPICAL STAGE
* * * DISSIPATION STAGE
— TYPHOON

○ POSITION AT 1200 GMT
● POSITION AT 0000 GMT-DATE



WESTERN NORTH PACIFIC TROPICAL
STORMS, 1974

10 NADINE AUG 15-18
11 ROSE AUG 26-SEP 1
12 TRIX SEP 5-7
13 WENDY SEP 20-30
14 FAYE OCT 31-NOV 4
15 HESTER NOV 11-15
16 JUDY DEC 14-19
17 KIT DEC 18-24

^^^ TROPICAL DISTURBANCE
••• TROPICAL DEPRESSION
— TROPICAL STORM STAGE
x x x EXTRATROPICAL STAGE
* * * DISSIPATION STAGE
○ POSITION AT 1200 GMT
● POSITION AT 0000 GMT-DATE

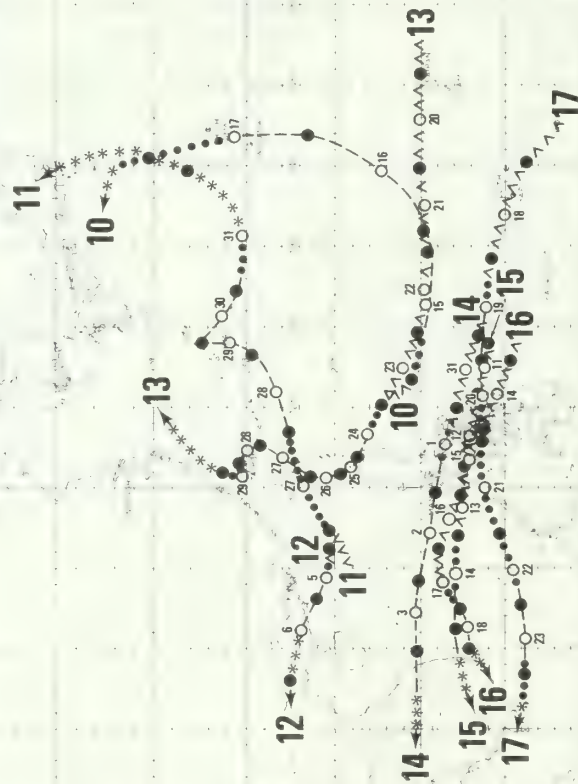


Table 1.--Frequency of tropical storms (including typhoons) by months and years

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1945	0	0	0	1	1	2	5	7	6	1	3	0	26
1946	0	0	1	0	1	2	3	2	3	1	2	0	15
1947	0	0	1	0	1	1	3	3	5	6	6	1	27
1948	1	0	0	0	2	2	2	5	5	4	3	2	26
1949	1	0	0	0	0	1	5	3	6	1	3	2	22
1950	0	0	0	0	1	2	3	2	3	3	3	1	18
1951	0	0	1	2	1	1	1	2	2	4	1	2	17
1952	0	0	0	0	0	3	3	4	5	6	3	4	28
1953	0	1	0	0	1	2	2	6	3	4	3	1	23
1954	0	0	1	0	1	0	1	6	4	3	3	0	19
1955	1	0	1	1	0	1	6	3	3	4	1	1	22
1956	0	0	1	2	0	1	2	5	5	2	3	1	22
1957	2	0	0	1	1	1	1	3	5	4	3	0	21
1958	1	0	0	0	1	3	5	3	3	3	2	1	22
1959	0	1	1	1	0	0	3	6	6	4	2	2	26
Average (1945-59)	0.4	0.1	0.5	0.5	0.7	1.5	3.0	4.0	4.3	3.3	2.7	1.2	22.3
1960	0	0	0	1	1	3	3	10	3	4	1	1	27
1961	1	1	1	1	3	2	5	4	6	5	1	1	31
1962	0	1	0	1	2	0	6	7	3	5	3	2	30
1963	0	0	0	1	1	3	4	3	5	5	0	3	25
1964	0	0	0	0	2	2	7	9	7	6	6	1	40
1965	2	2	1	1	2	3	5	6	7	2	2	1	34
1966	0	0	0	1	2	1	5	8	7	3	2	1	30
1967	1	0	2	1	1	1	6	8	7	4	3	1	35
1968	0	0	0	1	1	1	3	8	3	6	4	0	27
1969	1	0	1	1	0	0	3	4	3	3	2	1	19
1970	0	1	0	0	0	2	2	6	4	5	4	0	24
1971	1	0	1	3	4	2	8	4	6	4	2	0	35
1972	1	0	0	0	1	3	6	5	4	5	2	3	30
1973	0	0	0	0	0	0	7	5	2	4	3	0	21
1974	1	0	1	1	1	4	4	5	5	4	4	2	32
Average (1960-70)	0.5	0.3	0.5	0.9	1.4	1.8	4.9	6.1	4.8	4.3	2.6	1.1	29.3

Table 2.--Frequency of tropical storms reaching typhoon intensity by months and years

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1945	0	0	0	0	0	1	2	5	3	1	1	0	13
1946	0	0	1	0	1	1	3	1	3	1	2	0	13
1947	0	0	0	0	1	1	0	3	4	5	4	1	19
1948	1	0	0	0	2	0	2	2	4	1	2	1	15
1949	1	0	0	0	0	1	3	3	3	1	1	1	14
1950	0	0	0	0	1	1	1	2	1	3	2	1	12
1951	0	0	1	2	1	1	1	2	2	3	1	2	16
1952	0	0	0	0	0	3	1	3	3	4	3	2	19
1953	0	1	0	0	1	1	2	4	2	4	1	1	17
1954	0	0	0	0	1	0	1	4	4	2	3	0	15
1955	1	0	1	1	0	1	5	3	3	2	1	1	19
1956	0	0	1	1	0	0	2	4	5	1	3	1	18
1957	1	0	0	1	1	1	1	2	5	3	3	0	18
1958	1	0	0	0	1	3	4	3	3	3	1	1	20
1959	0	0	0	1	0	0	1	5	3	3	2	2	17
Average (1945-59)	0.3	0.1	0.3	0.4	0.7	1.0	1.9	3.1	3.2	2.5	2.0	0.9	16.3
1960	0	0	0	1	0	2	2	8	0	4	1	1	19
1961	0	0	1	0	2	1	3	3	5	3	1	1	20
1962	0	0	0	1	2	0	5	7	2	4	3	0	24
1963	0	0	0	1	1	2	3	3	3	4	0	2	19
1964	0	0	0	0	2	2	6	3	5	3	4	1	26
1965	1	0	0	1	2	2	4	3	5	2	1	0	21
1966	0	0	0	1	2	1	3	6	4	2	0	1	20
1967	0	0	1	1	0	1	3	4	4	3	3	0	20
1968	0	0	0	1	1	1	1	4	3	5	4	0	20
1969	1	0	0	1	0	0	2	3	2	3	1	0	13
1970	0	1	0	0	0	1	0	4	2	3	1	0	12
1971	0	0	0	3	1	2	6	3	5	3	1	0	24
1972	1	0	0	0	1	1	4	4	3	4	2	2	22
1973	0	0	0	0	0	0	4	2	2	4	0	0	12
1974	0	0	0	0	1	2	1	2	3	4	2	0	15
Average (1960-74)	0.2	0.1	0.1	0.7	1.0	1.2	3.1	3.9	3.2	3.4	1.6	0.5	19.1

Table 3.--Ratio of tropical storm frequency development to typhoon intensity (1960-1974)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Average number of tropical storms	0.5	0.3	0.5	0.9	1.4	1.8	4.9	6.1	4.8	4.3	2.6	1.1	29.3
Average number of typhoons	0.2	0.1	0.1	0.7	1.0	1.2	3.1	3.9	3.2	3.4	1.6	0.5	19.1
Ratio	.40	.33	.20	.78	.71	.67	.63	.64	.67	.79	.62	.45	.65

Table 4.--1974 Western North Pacific Tropical Cyclones

Name	Intensity	Date	Maximum surface wind (kt)	Minimum observed sea level pressure (mb)	Deaths*	Missing*
Wanda	TS	Jan. 8-13	55	992	---	---
Amy	TS	Mar. 13-19	45	987	---	---
Babe	TS	Apr. 25-May 1	60	983	---	---
Carla	TY	Apr. 29-May 7	80	963	---	---
-----	TD No. 5	Jun. 6-8	30	---	---	---
Dinah	TY	Jun. 6-14	70	974	73	33
Emma	TS	Jun. 10-18	60	988	---	---
Freda	TS	Jun. 17-21	45	989	---	---
Gilda	TY	Jun. 26-Jul. 7	90	944	128	26
Harriet	TS	Jul. 13-19	45	996	---	---
Ivy	TY	Jul. 15-22	95	945	20	46
Jean	TS	Jul. 15-21	45	995	---	---
Kim	TS	Jul. 21-24	50	989	---	---
Lucy	TS	Aug. 4-12	54	995	---	---
Mary	TY	Aug. 9-26	70	964	13	---
-----	TD No. 16	Aug. 13-15	30	994	---	---
Nadine	TS	Aug. 15-18	50	982	---	---
Olive	TS	(Central Pacific Hurricane Center)				
Polly	TY	Aug. 24-Sept. 2	95	948	9	8
-----	TD No. 20	Aug. 26-29	30	994	9	68
Rose	TS	Aug. 26-Sept. 1	50	985	---	---
Shirley	TY	Sept. 3-9	70	972	---	---
Trix	TS	Sept. 5-7	40	---	---	---
Virginia	TY	Sept. 10-15	75	969	---	---
Wendy	TS	Sept. 20-30	60	984	47	7
Agnes	TY	Sept. 23-30	105	961	---	---
Bess	TY	Oct. 6-14	65	980	33	3
Carmen	TY	Oct. 13-19	75	974	25	1
Della	TY	Oct. 19-27	90	958	36	21
Elaine	TY	Oct. 22-31	95	943	34	20
Faye	TS	Oct. 31-Nov. 4	55	987	---	2
Gloria	TY	Nov. 2-10	120	931	10	---
Hester	TS	Nov. 11-15	35	1000	11	---
Irma	TY	Nov. 18-Dec. 2	115	939	11	---
Judy	TS	Dec. 14-19	40	998	---	---
Kit	TS	Dec. 18-24	40	995	17	---
					<hr/> 476	<hr/> 235

+ Estimates over water (period--1 min)

* Statistics recorded as available

TD - Tropical Depression

TS - Tropical Storm

TY - Typhoon

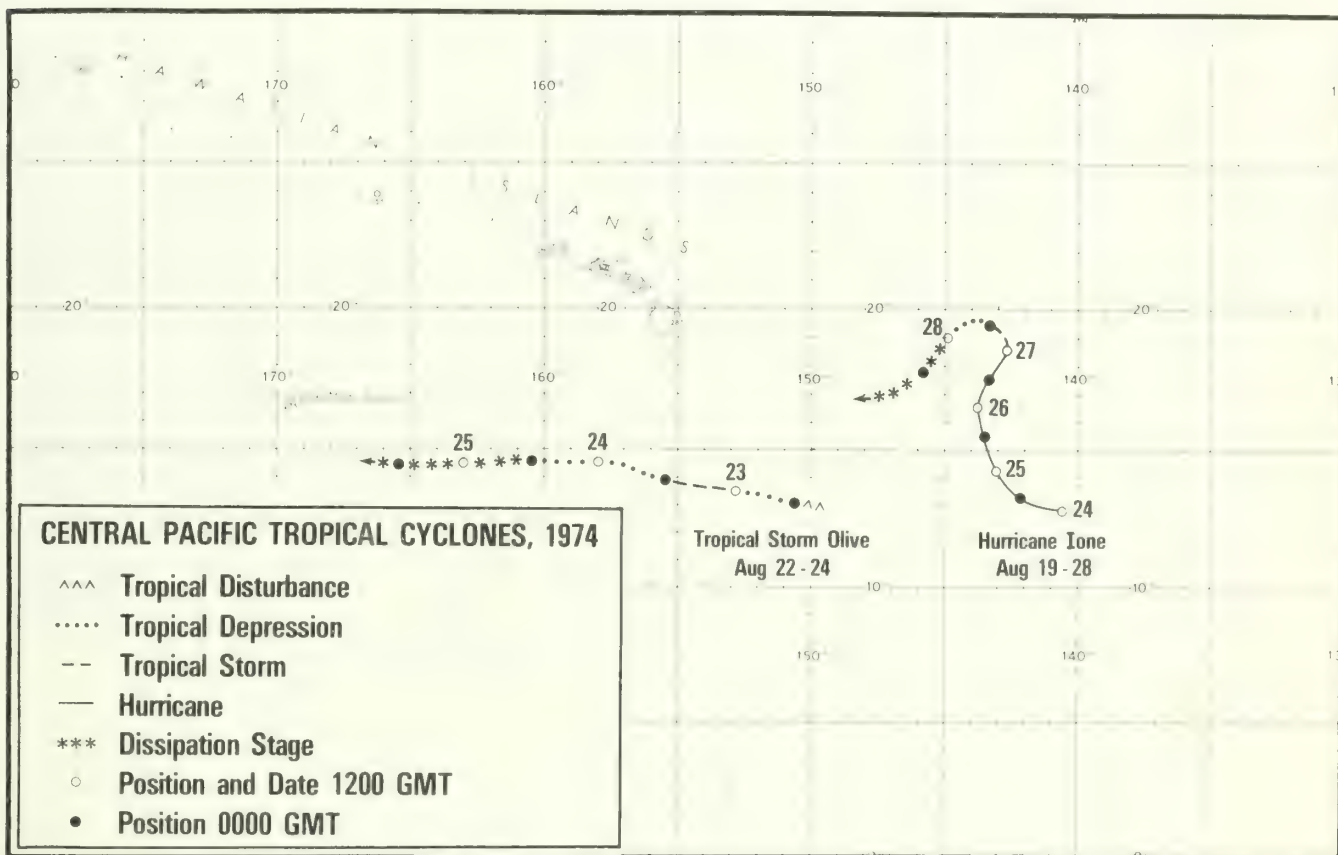
CENTRAL NORTH PACIFIC TROPICAL CYCLONES 1974

The 1974 hurricane season in the central Pacific followed a pattern similar to that of recent years--short, but active. In general, there also was a similarity in life cycle and track with previous years' storms.

Between August 9 and 30 three tropical cyclones posed a possible threat to the Hawaiian Islands. The first of these, tropical depression #11, after formation near 12°N, 133°W, drifted westward as a weak tropical depression, but never reached storm strength. It passed 140°W on the 8th and died a few days later.

Tropical storm Olive formed in the Intertropical Convergence Zone on the 21st, near 10°N, 147°W. It barely attained storm strength on the 23d. It moved west-northwestward, ending its short life 240 mi southeast of Johnston Island on the 26th.

Hurricane Ione developed off Central America and traveled westward, crossing 140°W on the 23d as a hurricane at 13°N. It had maximum winds of 100 kn shortly after turning sharply northward on the 25th. It slowly curved northeastward and appeared to be heading for a quick ending over the colder eastern Pacific waters, but instead it slowly turned northwestward as the high-pressure ridge north of it strengthened. It weakened to a tropical storm and reached its highest latitude of 19.5°N on the 27th before swinging southwestward and further weakening to a tropical depression. Its career ended on the 30th, 170 mi south-southeast of South Point, Hawaii Island. The eastern Pacific life cycle of Ione is described in the article on Eastern North Pacific Tropical Cyclones.



F L O O D S T A G E

YEARS 1972-1973

The following sections, which would normally appear in this issue of the Climatological data, have been delayed. They will appear as delayed data in a subsequent issue which normally carries late reports:

General Summary of Flood Losses - 1972-1973

Annual Flood Losses for United States

Estimated Flood Losses - 1972-1973

Loss of Life and Property in the United States from Floods 1925 - 1973.

Distribution of Estimated Flood Losses - Charts

Losses in Individual Severe Floods since July 1902

Flood Damage Estimates by States - 1955-1973

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

YEAR 1974

R. J. Maley, Office of Hydrology

There were a number of major flood events in the United States during 1974. Monetary losses from these floods amount to more than a half billion dollars, but the total is well below that of either of the preceding two years. There were at least 89 flood-related fatalities during the year.

The January flooding in the far Northwest was the single most important event with damage estimated between \$200 and \$300 million. The April flooding in Mississippi which caused damage totalling about \$60 million was the second most severe and widespread.

The following brief summary by months covers the most significant flooding during the year. More detailed summaries of flood events causing damages and/or loss of life appear in the monthly issues of this publication.

JANUARY

Flooding was particularly severe in the Pacific Slope drainage. Many areas received excessive rainfall. Three-day totals of 6 to 12 inches were reported over the Russian Basin in California, and nearly 14 inches fell over the Oregon coastal basins. Nine inches of rain fell in 4 days at Mullan, Idaho, in the headwaters of the Coeur d'Alene River. In addition to this heavy rain, snowmelt runoff and ice jams contributed to the disastrous flooding in some areas.

River stages reached record high levels on the Applegate River and on Cow Creek in the Oregon coastal drainage; on the Coeur d'Alene River in Idaho; on the Marys River in the Willamette Basin of Oregon; and on the Klickitat River in the lower Columbia River drainage of Washington. Several streams rose to near-record levels. Thousands of persons were driven from their homes by high water in Idaho, Oregon, Washington, and northern California. Despite the extent and severity of the flooding only six lives were lost due to drowning. There were nine other lives lost at Canyonville, Ore., when a massive slide pushed a telephone company relay station into Canyon Creek, burying the 10 x 10 foot concrete building beneath 30 feet of debris.

Damage was extensive to residential, industrial, commercial, agricultural, and public property. Preliminary estimates put the total loss well above \$200 million, with 50% or more of this in the State of Oregon alone.

Major flooding occurred also in some parts of the Ohio River Basin. The Guyandot River reached a record high stage at Branchland, W. Va., and major flooding occurred along the Tug Fork. Damage along the Guyandot totalled about \$5 million, of which \$4 million occurred in the city of Logan, W. Va. Damages elsewhere in West Virginia totalled about \$4 million. The Wabash River Basin of Indiana and Illinois experienced a major flood which inundated over a quarter million acres and caused damage totalling over

\$8.5 million. Significant flooding was reported also in the Kentucky River Basin in Kentucky, especially in the town of Jackson on the North Fork of the Kentucky, and also in the middle and lower reaches of the Green River and parts of the Cumberland River Basin.

Generally light to moderate overflow occurred in a number of other parts of the Mississippi System, as well as in a few places in the Great Lakes drainage, South Carolina, Mississippi, and the West Gulf drainage. Some of this was a continuation of flooding which began in December 1973.

FEBRUARY

There was no significant new flooding during February. Overflow from previous months, however persisted thru February and carried over into March in some areas. The principal basins affected were the lower Ohio and lower Mississippi, although several other areas were affected to a lesser degree.

Much lowland acreage in the lower Mississippi basin was inundated. Along the St. Francis River in Arkansas there were 104,000 acres under water during the January-February flood. Along the Mississippi River from the vicinity of Caruthersville, Mo., to Helena, Ark., 475,000 acres were flooded. Levee damage in this reach of the Mississippi which was caused by the historic flood of 1973 had not been completed due to interruptions caused by high water. This overflow further delayed repair work and aggravated previous damage.

Ice jams caused wide stage fluctuations on the Grand River and Raisin River in lower Michigan. The overflow caused by these ice jams caused some minor damage to residences and evacuations of persons from their homes.

MARCH

Major flooding developed in southeast Kansas and northeast Oklahoma. Precipitation during the month ranged upward to 320% of normal over the Neosho and Verdigris River Basins, with 80% of this occurring from the 9th thru the 11th. Crest stages along the Verdigris ranged to more than 9 feet over flood stage, and to nearly 9 feet above along the main stem Neosho. Bird Creek, a tributary of the Verdigris, rose to more than 16 feet over flood stage at Avant, Okla. Over 90% of the estimated \$9 million damage was sustained in the Verdigris Basin in Oklahoma. All classes of property were affected; several hundred families were evacuated from their homes, and there were 3 flood related deaths.

Damage of \$5 million occurred along the Sacramento River in California. The upper Sacramento Basin received 200% to 300% of normal precipitation during March. This kept the Sacramento at high level throughout the month. Then the more than 12 inches of rain

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

over portions of northern California during the last few days of March pushed the upper Sacramento River to as much as 6 feet over flood stage.

Considerable flooding occurred also over the northern California coastal drainages, particularly the Russian River which crested 8.3 feet over flood level at Summerhome, Calif. Many other areas experienced less significant flooding during March, including some streams in Michigan, Missouri, Indiana, Mississippi, North Dakota, Minnesota, Iowa, Nebraska, and including portions of the main stem Mississippi River and the lower Ohio River.

APRIL

Severe flooding struck the State of Mississippi. Record or near-record high stages were observed at several points along the Leaf River. Rainfall in the headwaters of the Leaf exceeded 20 inches (20.76 inches at Sanitorium and 20.36 inches near McGee). Most of this heavy rain fell in a 30-hour period on the 12th and 13th. The crest at Hattiesburg (34.03 feet) was 0.2 foot higher than the old record which occurred in April 1900. About 6,000 persons were evacuated from the Hattiesburg area where over 6 square miles were flooded with water 15 feet deep in places. The flooded Tallahala Creek drove 2,000 persons from their homes in the Laurel area. Rainfall in the Pearl Basin ranged from 4 to 16 inches. The resultant flood crests exceeded modern records in several areas, both on tributaries and on the main stem. In addition to extensive agricultural flooding during the April flooding in Mississippi, heavy damage also occurred to residential, commercial, and industrial property and to transportation. Statewide damages were estimated at about \$60 million. There were eight lives lost.

Snowmelt runoff caused serious flooding over the northern portions of the Red of North Basin. Water content of the accumulated snow pack in the basin ranged to over 5 inches in the Pembina watershed. A record high flood crest was observed at Neche, N. Dak., on the lower Pembina River. Flooding continued through most of May in some portions of the basin. Damage from the 1974 Spring flooding in the Red of North Basin (including the Souris Basin) was estimated by the U.S. Engineers at just over \$17 million. Agricultural damage accounted for 75% of this total. Damage was almost equally divided between the states of North Dakota and Minnesota.

Flash flooding on the island of Oahu, Hawaii, took the lives of 4 persons and caused property damage totalling nearly \$3.8 million. Record high stages and discharges were observed on several streams. This overflow was caused by extremely heavy rains on the 19th which at one station totalled 21.2 inches. Flooding on the island of Kauai during the same storm also reached record to near-record levels. Damage was relatively minor, however, (less than \$100,000) because of the sparser population and lower degree of development on the island. There was one life lost.

MAY

Major flooding occurred on the upper Mississippi

River and tributaries in Iowa and Illinois following a 5-day period of excessive rainfall at mid-month. The monthly total precipitation at Moline, Ill., was the greatest of any May of record. Record high stages were observed in Iowa on the Wapsipinicon River and on Richland and Walnut Creeks, tributaries of the Iowa River. Many persons were evacuated from their homes in northeast Des Moines, Iowa, from overflow of Four Mile Creek. As much as 8-foot overflow occurred in the Skunk Basin and on the lower Iowa River. Extensive property damage was reported in many communities as well as to rural and agricultural property. Preliminary estimates were placed at \$57 million, with 565,000 acres inundated. The principal tributary flooding in Illinois was in the Rock Basin and the Illinois Basin with nearly 200,000 acres flooded. Total damage was put at \$43 million, with \$30 million of this in the Illinois Basin.

Much above-normal precipitation over the lower Missouri River Basin (up to 4 times monthly normal) produced severe flooding in the northwest part of Missouri with major flooding on across the State. Much of this heavy rain fell during the period of the 16th-18th. Hundreds of dwellings were flooded and many hundreds of persons were evacuated from their homes. Approximately 280,000 acres were inundated. There were 3 lives lost. Total damage along the Missouri and its tributaries was in excess of \$48 million. Of this about \$19 million was in the Platte Basin, nearly \$14 million in the Little Platte Basin, and over \$7 million in the Fishing River Basin, all in the northwest part of Missouri.

The St. John River in Maine rose to its highest stage in at least 18 years at Fort Kent on May 1. This was due to snowmelt runoff, augmented by spring rains, and aggravated by the break-up of a huge ice jam about 5 miles above Fort Kent. There were 350 persons evacuated from their homes. Damage was estimated at \$3 million.

Serious flash flooding occurred in the L'Angville River drainage in Arkansas in Phillips County and in the town of Helena. There were 400 persons evacuated, and damage to homes, businesses, and agriculture totalled \$2.5 million.

Major general flooding that began in the Wabash River Basin in Indiana and Illinois during May continued through June. There were about 340,000 acres inundated and total damage was placed at \$13.5 million of which 75% was to crops.

JUNE

The most significant single flood event during June resulted from torrential rainfall from the 26th to the 28th over the west-central Florida coastal streams. Totals for the 3-days ranged to 22.9 inches in the Tampa area. Damage was estimated by the U. S. Engineers at more than \$23 million although an undetermined part of this was caused by the heavy rains rather than from stream overflow. Most of the damage (\$18 million) occurred in Pinellas County while \$4 million occurred in Lee County.

Heavy flood damage occurred in several southeastern

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

Minnesota counties following a storm which dumped 2 to 6 inches of rain on the 20th and 21st. Somewhat less flood damage occurred in two northeastern Iowa counties during this same storm. Record high stages were reported by the U. S. Geological Survey on the Whitewater River, and most of the 158 residents of the town of Elba, Minn., were evacuated from their homes. Residents along the upper Whitewater River consider this to be the worst flooding in 50 years. Of the more than \$8 million total estimated losses, however, almost \$7 million occurred along the Root River in Minnesota.

Record high stages occurred on the lower Iowa River which reached over 6 feet above flood stage at Marshalltown, Iowa, and on the South Skunk River at Ames, Iowa. No damage estimates were available for this major overflow in eastern Iowa which included the Des Moines and the Cedar River drainages. Extensive property damage was reported in Des Moines, Iowa, vicinity, and major agricultural damage was sustained. Thousands of acres of cropland required replanting.

Flooding continued from May in the Illinois River Basin in Illinois. Rainfall during June again brought rivers to major flood conditions with stages going as much as 10 to 12 feet above flood level. Hundreds of persons were evacuated and extensive damage was reported to residential, and commercial property. Total damage was estimated at \$4.5 million with 25,000 acres inundated.

The main stem of the upper Mississippi River exceeded flood stage from Clinton, Iowa, to the mouth of the Ohio River. The crest stages ranged from only a tenth of a foot above flood stage at LeClaire, Iowa, to as much as 7.8 feet over flood level at Grafton, Ill. Minor overflow occurred at a few places from below the mouth of the Ohio River to Baton Rouge, La. Flooding continued into July between Keithsburg and Alton, Illinois.

The greatest flood of record to be produced by snow-melt runoff alone occurred along the upper and middle Yellowstone River in Montana. This overflow and that along streams draining the Absaroka Range caused well over \$1 million damage.

Eastern Oklahoma received above-normal rainfall during June with monthly totals of 10 to 12 inches at some stations, most of which fell between the 4th and 10th. This produced serious flooding on the Deep Fork and Illinois Rivers, and on Polecate Creek. Crests stages were 10 to 12 feet above flood stage. Hundreds of houses received major damage. Total loss in eastern Oklahoma was estimated at about \$10 million. In addition, 6 lives were lost in the flooding.

Rapid melting of an above-normal snow pack caused flooding in the Snake River Basin, with record high stages along the Salmon River in Idaho. Most of the \$1.3 million damage was to roads and bridges.

JULY

On the 19th a severe flash flood struck Lake Havasu

City, Ariz., causing \$2.5 million in damage. Three persons were drowned when their stalled car was swept downstream. A number of flash floods occurred elsewhere in Arizona during July, and flash flooding or urban flooding occurred also in New Mexico, West Virginia, South Carolina, Michigan, and in New York State. Flooding in the mountains near Albuquerque, N. Mex., claimed two lives. There were no outstanding flood events involving major rivers during the month.

AUGUST

As in July, the most significant flood events during August were flash floods or urban flooding, occurring in a number of areas from the Atlantic Coast States to the Mississippi Valley, and Texas to Arizona.

The most severe flash flooding in 20 years occurred in Delaware County, Pennsylvania, along Cobbs and Upper Darby Creeks. One life was lost. Damage to residential and commercial property and to roads was estimated at \$1 million. One life was lost also in a flash flood on the Elizabeth River in New Jersey.

Flooding on the Lumber River in North Carolina resulted in the evacuation of 150 families and a few thousand dollars damage. About 500 homes and 30 business houses in Jeannette, Pa., were affected by high water following a heavy intense storm during the late afternoon of the 12th, during which 3 to 4 inches of rain fell in less than 2 hours.

SEPTEMBER

A disastrous flash flood occurred during the afternoon of the 14th when an intense short-duration storm deposited up to 3.5 inches of rain over a 23 square mile-basin southeast of Las Vegas, Nev. A wall of water, described by various witnesses as 10 to 30 feet high, roared down Eldorado Canyon to Lake Mohave. There were 9 fatalities, and almost total destruction of property at the Nelson Landing Marina.

Widespread flooding occurred in Texas during the month with major overflow along several rivers in the southern part of the State and in the Rio Grande Basin. There were 4 lives lost in widely separated incidents in the Concho, Mission, and Devils Basins. Extensive losses to bridges, roads, livestock, and crops occurred in the Concho watershed following 7 to 10 inches of rain on the 19th-21st. Flooding from the San Saba River caused about \$200,000 damage in Menard, Tex., and \$500,000 damage elsewhere in Menard County. Severe flash flooding occurred in Abilene, Tex., when Elm Creek rose to a record high level on the 19th requiring the evacuation of 150 families.

The Navidad River rose to a record high stage at Hallettsville, Tex., when it reached 14 feet above flood stage on the 13th following 6-inch rains over the headwaters during the morning hours. Serious flooding occurred also along the Lavaca River.

Serious flash flooding occurred on several tributaries of the Pecos River in New Mexico causing considerable agricultural damage. Record to near-record stages

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

were observed along the main stem Pecos in Texas. This was caused by storm total rainfall averaging 10 to 12 inches with point totals of 20 inches or more at several stations. One observer, at Pandale, reported 7.5 inches in 45 minutes on the 19th. Extensive damage estimated at \$20 million, occurred to residences, transportation, livestock, and agriculture.

OCTOBER

Several tributaries of the Arkansas Basin in northeast Oklahoma and southeast Kansas, and of the Red River in southeast Oklahoma and northeast Texas, rose to well above flood levels as did several rivers in the Gulf drainage of Texas. The more significant flooding included that on Bird, Black Bear, and Polecat Creeks in northeast Oklahoma; the Blue and Clear Boggy in southeast Oklahoma; the Sulphur in northeast Texas; and several tributaries elsewhere in Texas including some in the Sabine, Trinity, Brazos, Colorado, and Rio Grande Basins.

The Sulphur River reached a record high crest at Hagansport, Tex., when it rose to 6.2 feet over flood stage. This was due to heavy rainfall during the last two days of the month which totalled as much as 9 inches in 24 hours

Damage from the October flooding was largely confined to rural areas and mostly affected croplands, livestock, and roads. However, there were 2 flood-related deaths in northeast Oklahoma when a van was swept off the road.

There were a number of flash flood or urban flood incidents in the Rio Grande Basin in New Mexico. Two lives were lost at a stream crossing at Espanola, N. Mex.

NOVEMBER

Severe flash flooding claimed 13 lives in and around Austin, Texas, during the night of November 23. All these fatalities resulted from cars being swept away at low water crossings on small streams. In addition, about \$1 million property damage was reported. Elsewhere in Texas, heavy agricultural damage (\$4,500,000) occurred in the upper Trinity Basin from flooding that began the last day or two of October and

continued into November. Several thousand acres of crop land and pasture land were inundated in the Sabine, Neches, and Brazos Basins, and along the Sulphur and main stem Red Rivers.

Major flooding occurred in the Arkansas Basin in Oklahoma, primarily in tributary basins including Black Bear and Bird Creeks, lower Verdigris, Deep Fork, Cimarron, Spring, Chikaskia, Illinois, North Canadian, and lower Neosho. Many residents of North Oklahoma City on Deep Fork, and of Skiatook, Sperry, and Owasso on Bird Creek were forced from their homes. An estimated 10,000 persons in all flood areas were evacuated from their homes. Crest stages ranged 5 to 7 feet above flood stage. Property damage has been estimated at \$10 million. During the same period, tributaries of the Arkansas in Kansas overflowed, causing more than \$500,000 damage to croplands and to roads and bridges.

Severe flash flooding in Puerto Rico and in the Virgin Islands during the last few days of October and in November took 11 lives (ten of these were in Puerto Rico). Preliminary estimates of damage totalled \$10 million in Puerto Rico, including \$6 million to agriculture and \$4 million to roads and streets. One life was lost on St. Thomas Island, and damage was estimated at \$4 million.

DECEMBER

There were no particularly noteworthy flood events during December, although some overflow did occur in a number of scattered areas across the country. The major agricultural flooding that began in November in east Texas continued into December. In the upper Trinity Basin where 3.5 inches of rain fell during the month, an additional \$370,000 damage was reported with 38,600 acres inundated.

Severe urban flooding occurred in the Los Angeles and San Diego, Calif., areas. Although no stream overflow was involved, in the Los Angeles area inadequate drainage facilities in combination with a high tide caused water to collect to as much as 10 feet deep in the Carson-Lomita section, and to 3 to 7 feet deep in some other sections.

Chart I. Departure from Normal of Annual Temperature ($^{\circ}\text{F}$) at Surface, 1974

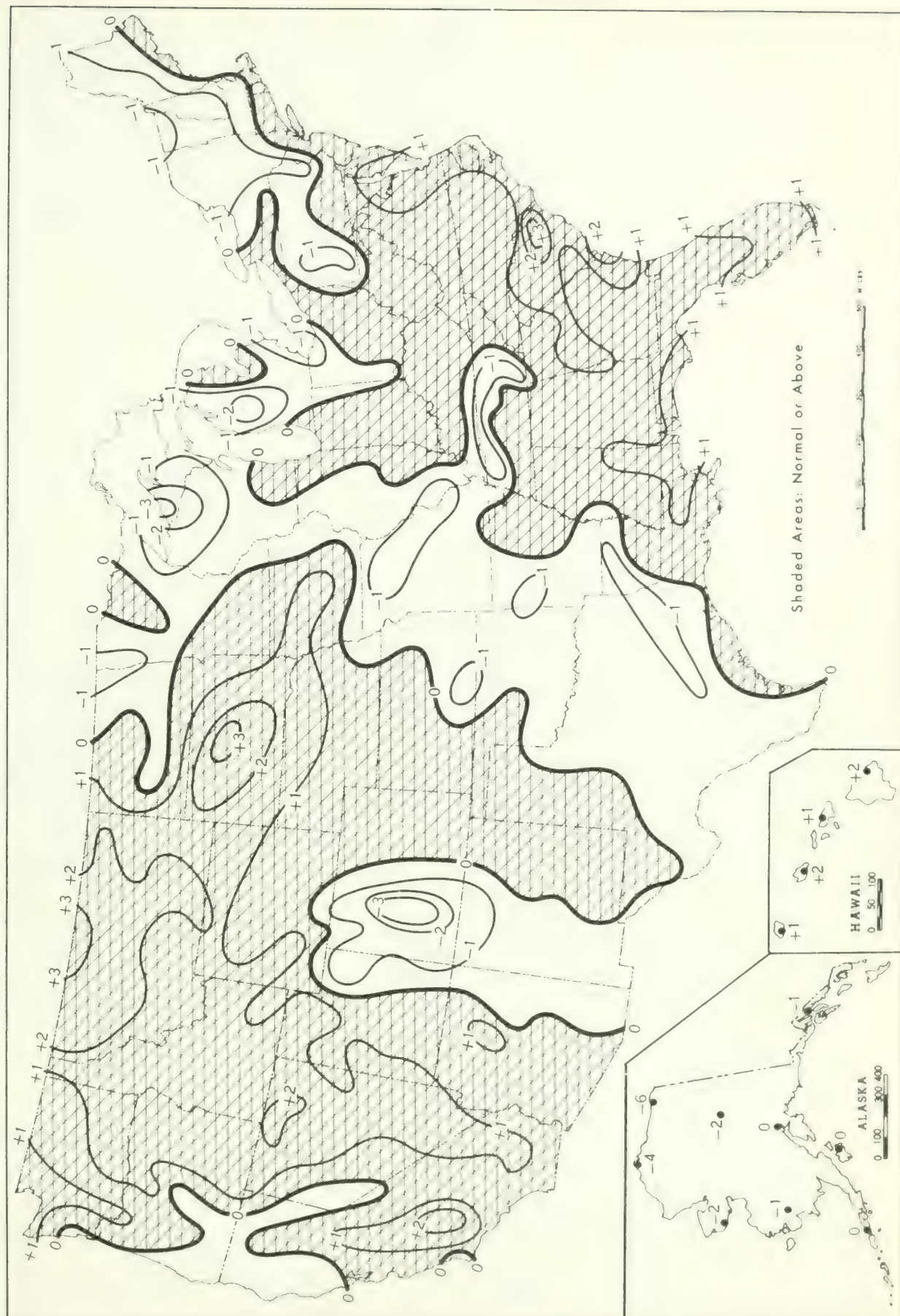
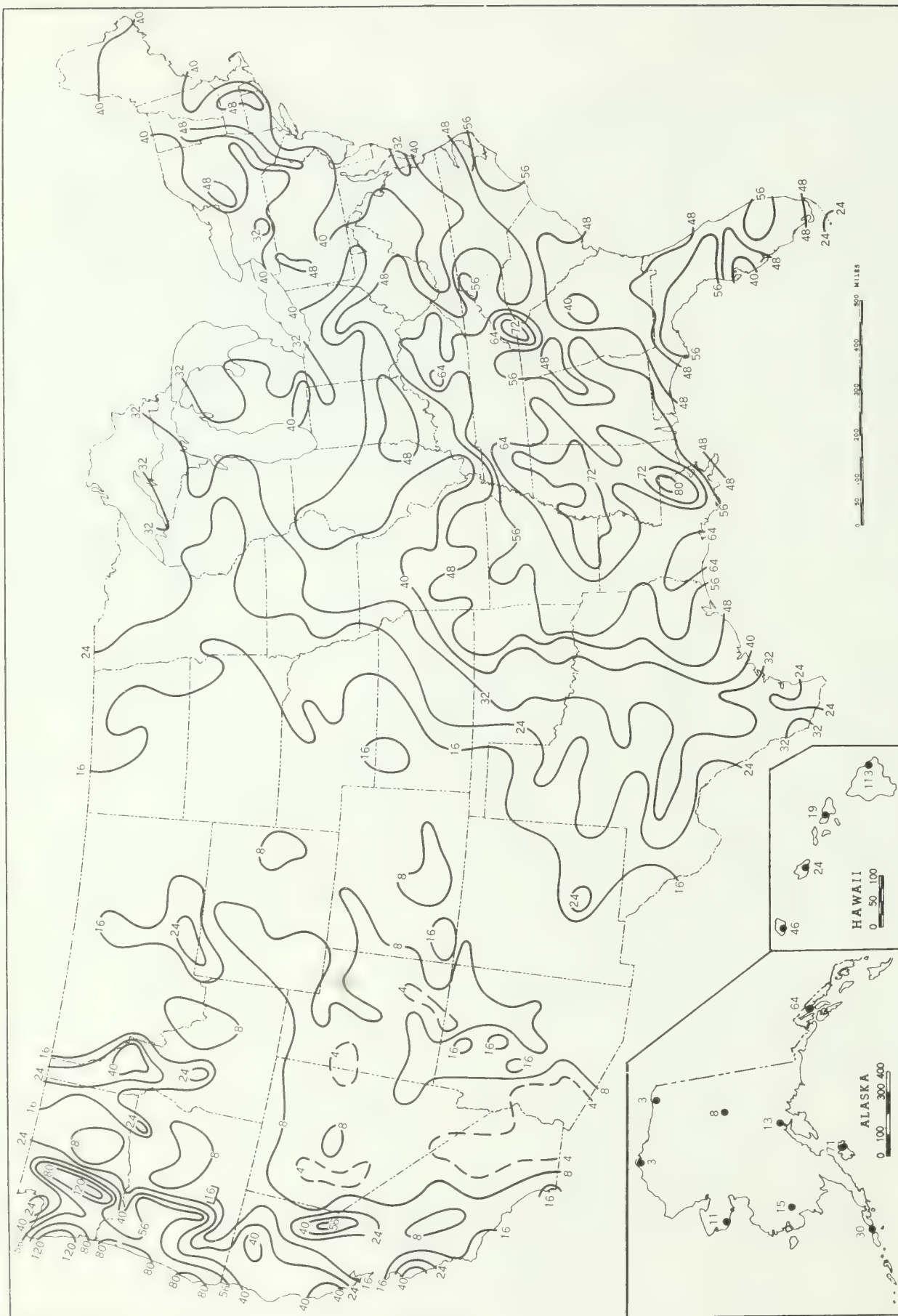


Chart II. Total Annual Precipitation (inches), 1974



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